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Southern Medical Record

A Monthly Journal of Medicine and Surgery.

VOL. XXVIII. ATLANTA, GA., JULY, 1898. No. 7

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Pneumonia Following La Grippe.

BY M. E. CHARTIER,

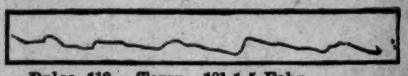
Docteur en Medecine de la Faculte de Medecine de Paris, Membre Correspondant etranger de la Grande Encyclopedie, Section de Philologie.

As a rule certain diseases prove more fatal, not only in given districts, but during certain periods of time, along particular areas of territory. We have La Grippe, decreasing in intensity for the present; it has been replaced by pneumonia, which is not only raging in the United States, but in European countries. The bacteriologists will have to explain this fact; the truth remains however, that the mortality from pneumonia in its various forms is now far in excess of any previous record.

Twenty years ago, and preceding the re-appearance of La Grippe in its epidemic form, pneumonia proved as dangerous as it does at the present time. Many cases fell under my personal observation, and I must admit that my Parisian confreres were at a loss, not for a remedy for the disease alone, but even for a logical line of treatment. Dujardin-Beaumetz became so skeptical that he prescribed stimulants, regardless of therapeutical conditions. The mortality in his ward at the Hotel Dieu proved that his patients fared no worse than the others submitted to the antiphlogistic remedies then en vogue.

At that time, I advocated in my treatise on therapy, the administration of sulphate of codeine in two to five centigrammes doses—one-fourth to one-half grain. Codeine is the only remedy known to me possessing a marked and distinct effect upon the hypersecretions of the bronchial mucous membrane. What I then wished was an analgesic possessing antipyretic properties, which I could safely use. This I have since found in antikamnia and I believe it can be exhibited safely, especially on account of its not having a depressing effect on the cardiac system.

Experimental doses of from one-half to one gramme—seven to fifteen grains—of antikamnia administered under ordinary conditions did not develop any untoward after-effect. The following trace, taken with the sphygmograph was made ten minutes after the administration of one gramme—fifteen grains—of antikamnia.



Pulse, 112. Temp., 101 1-5 Fahr.

The above trace shows plainly that unlike other coal-tar products, antikamnia has a stimulating effect upon the circulation. In this particular case the temperature was sensibly reduced—102° to 101 1-5°. The analgesic effect of the drug was satisfactory.

My conclusion is that in the treatment of pneumonia, antikamnia is indicated as a necessary adjunct to codeine, on account of its analgesic and antipyretic properties and particularly because it acts as a tonic upon the nerve centres. The tablets of antikamnia and codeine containing four and three-quarter grains antikamnia and one-fourth grain sulphate of codeine, to my mind, present these two remedies in the most desirable form. I also find one tablet every hour, allowed to dissolve slowly in the mouth, almost a specific for the irritating cough so often met with in these complications. For general internal medication, it is always best to crush the tablets before administration.

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CONTENTS.

ORIGINAL ARTICLES:

The Application of Electricity in Medicine and Surgery..... 339
The Absence of Feces in Suckling Cats 341
Proceedings of Ex-Confederate Surgeons..... 343

SELECTIONS AND ABSTRACTS:

Malaria and the Cuban Campaign..... 348
The Protean Forms of Tuberculosis..... 359
Leprosy in Cuba..... 360
The Spanish Military Medical Service in Cuba..... 364
Diseases of Tropical Climates..... 365
Treatment of Locomotor Ataxia by Systematic Exercise..... 369
Wand of the Alchemist.—What the Man of Science May Secure from Coal Tar..... 377

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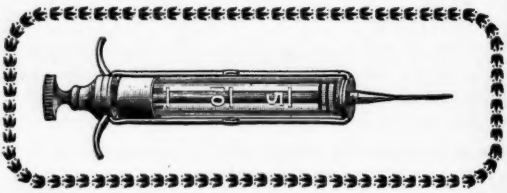

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CONTENTS.—Continued.

SELECTIONS AND ABSTRACTS—Continued.

Forecasting Sex.....
The Nourishing Part of Meat.....
"Husa" As a Remedy for the Opium Habit.....
Chronic Gastritis..... 382
The Exercise Treatment of Locomotor Ataxia..... 384

SOCIETY REPORTS:

Program of the Alumni Association of the Southern Medical College 386

EDITORIAL:

American Medical Association..... 388

BOOK REVIEWS..... 391

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A MONTHLY JOURNAL OF MEDICINE AND SURGERY.

VOL. XXVIII. ATLANTA, GA., JULY, 1898. NO. 7.

Original Articles.

THE APPLICATION OF ELECTRICITY IN MEDICINE AND SURGERY.*

By J. McFADDEN GASTON, Jr., A.M., M. D., Atlanta, Ga.

President Alumni Association of Southern Medical College.

Electricity has been applied in all the arts and sciences and to a great variety of useful mechanical appliances. The thorough realization of the scope of this wonderful agent is not possible without considering and contemplating the many changes which have been brought about since the important discovery by Galvani.

The electric telegraph first startled the world by the rapidity of transmission and the annihilation of time and space. Then the telephone became a complete revelation of power, and a new impetus to all communication between man and man was given when its many improvements were applied.

In like manner as a motor, electricity has made changes in locomotion in every department of enterprise.

While the changes have been more wide-spread in the above applications of electricity, we doubt whether there could be a more astonishing transformation of methods than that accomplished by the application of electricity to medicine and surgery. Beginning with the Leyden jar, a simple shock was used in certain diseases, while the static machine has been known for centuries to be a powerful therapeutic remedy.

At the same time we find that the most important results have been attained by Galvanic and Faradic electricity.

In treating strictures, tumors, naevi, nervous diseases, the current has been applied with marked and satisfactory cures. The careful observation of data and the compilation of statistics by Apostoli, Betton Massey, and others show that in diseases of women electrolysis is an agent of undoubted merit. In the method of cataphoresis as used by Drs. McGuire, Gaston and others, most remarkable changes in cell formation and

*Presented to the meeting of the Alumni, July 22, 1898.

XUM

tissue proliferation are shown to be made by medicines which can be directly topically applied by the method of transmission from the positive to the negative pole. The ordinary stimulant effect of electricity enables the physician to administer medicines by its means which would not be borne so well by weak patients. Carcino-sarcoma, Adeno-sarcoma, or small celled sarcoma have been cured by the application of Donovan's solution to them in this way. At the same time an internal exhibition of this drug has been used.

The process of the galvano-cautery has been very well recognized, and by means of snares nasal polypi and adenoid growths have been successfully extirpated, while the hemorrhage in these cases is less than in the process of torsion or of the various cutting instruments that have been devised.

In regard to the cauterizing effects of electricity, we would mention Dr. Betton Massey's process of cataphoresis and the action of gold electrodes coated with pure mercury. The cases which he has treated are cases of malignant growths which are frequently operable, but which in his experience have yielded to the destructive effects of the mercury and the current combined. The cases which he has reported recently have been cases of carcinoma of the mammary gland, and in these cases the axillary glands are also attacked by the electrode in one seance under an anæsthetic.

Dr. E. H. Bradley, of Peoria, Illinois, in a thoughtful article in the Peoria *Medical Journal* of July, 1898, draws attention to the value of cataphoresis in the sterilization of wounds, showing the direct application of mercury when the bichloride is used and the free chlorine escapes at the positive pole where the bichloride of mercury is applied, while the metallic mercury goes to the interior of the wound and to the negative pole, killing all germs.

He states that iodine is electro-positive and hence must be applied to the negative pole of the current, but the results of McGuire in goitre do not bear him out.

The application of the weak galvanic current has also been successfully made in cases of urethral stricture, enlarged prostate; and epilation by electrolysis is a very well recognized process.

I have recently treated a case by electricity in a rather novel condition. The nerve of the arm was painful and a small amount, about one-half grain of cocaine hydrochlorate was applied to the arm along the ramifications of the nerve, and this is always attended with anæsthesia as is known in cases of extraction of teeth. Another case now under my care is one of a lady with a few extra hairs on both sides of upper lip, and several on the chin and the neck. The needle is put on the negative pole and applied into the hair follicle. Half a minute suffices to destroy the follicle. About five cells of a Waite and Bartlett battery are used.

Case of a uterine fibroid was seen this week, with the advice to have electricity applied.

XUM

THE ABSENCE OF FECES IN SUCKLING CATS.

Read before the Alumni Association of the Southern Medical College, July 22, 1898.

When a child, I was quite fond of cats, and like most young boys, was often so rough as to get myself scratched by the worried animals. Even in those days, I often wondered why one never perceived any odor or other sign of feces about a litter of young kittens. Yet in the case of half-grown cats, there are perhaps few boys who have not through mischief or roughness, provoked them to a discharge, the disagreeablelessness of which one is not likely to forget.

Last year a lady gave me a young cat, named Black Joe, a case of mistaken sex with the lady, no doubt. She was very affectionate and a fine mouser, so that I petted her a great deal. About two months ago, Joe gave birth to two kittens. She was in my bedroom, and when I carried her out, she mewed so plaintively to get back in, that I relented, thinking that I would seize such a favorable opportunity of finding out beyond a doubt what becomes of the little animal's feces.

I put the trio into a dry-goods box, in which I had previously placed some clean, white, lint-cotton. Now as I was at home every night during the first month, and the half of every day, and as my office and bedroom are within a few yards of each other, I had the little family under my eyes almost continually. At no time during those thirty days could I detect with either the sense of sight or that of smell, anything indicating either feces or urine. It has been suggested that the mother removed the discharges or licked them away. In this case, she stayed with her pets every night, and early next morning would take a stroll. I always watched her carefully and she carried nothing away. As for licking, we all know how cleanly cats are, from their standpoint, and how little likely the mother cat would be to swallow such abominations. Now, if she licked them away, without swallowing, where would they be? Moreover, I watched Joe often as she licked her offspring, she was very particular about keeping them clean, and was quite profuse in her caresses around the anus and genitals, but there was at no time any secretion to lick away.

When they were about a month old, one of the little ones died. He had never thrived and the intense June heat was too much for him. Just here is where I missed my opportunity! I should have examined the intestines for fecal matter. Unfortunately, the idea occurred to me only when it was too late. However, I continued to observe the other: He was soon able to get out of the box and crawl about the room: still no feces. Lest he might deceive me, since cats, in this matter, are secretive, I confined him to the room, while he and his mother spent the nights at my feet.

One day when he was about six weeks old, Joe, after the manner of cat mammas at this stage, brought in a lizard to her baby, but not all her arts could induce him to notice it.

The same afternoon, she brought him a rat. Instantly he became interested, but would not try to eat till she had exposed the flesh by biting its neck: then he sucked freely of the juice and blood. The next morning for the first time, I found a small, hard, reddish roll or cylinder of unmistakable cat-feces. The second day no tidbit was brought and the following day there were no feces. The third afternoon kitty received a young rabbit over which he had a high old time, growling and snarling, as kittens are wont to do. The next morning I had to remove more feces that were still more cat like. Well, to be brief, I have kept the little feline under almost constant surveillance, being under lock and key while I was away. I have likewise kept up with the mother; she has not brought in food every day, only two or three days out of the week, and I have seen feces at no time, save within twenty-four hours after such times.

I give these outlines in the hope that a more competent person may make a thorough investigation. I know it is deemed impossible for a highly organized animal to exist without throwing off solid excreta, but the history of science is only a succession of so-called impossibilities proven to be facts. The importance of the subject under discussion to our profession need not be enlarged upon.—B. B. BELL, M. D.

SPANISH CRUELTIES.

Curses, like chickens, come home to roost. Some enthusiastic Cuban has delved in the old Spanish libraries and from a number of books has photographed the wood cuts made at the time, selecting those which illustrate the cruelty of greed of that nation. They form a collection about as grewsome and hideous as the famous chamber of horrors in Brussels. In one picture the methods employed by Pizarro and Cortez to compel the poor Aztecs to reveal the source of their wealth are shown. The favorite system was to stretch a man on the ground between two posts and then to build a fire near the soles of his feet. Another was to set fierce hounds upon a man. The terrible part of the story is that these practices were not done underhandedly, but openly, by their perpetrators, and the drawings were put in these old books to show how ingenious and efficient the system was.—*New York Mail and Express.*

XUM

PROCEEDINGS OF EX-CONFEDERATE SURGEONS.

JULY 20, 1898.—The following surgeons and assistant surgeons organized temporarily, with Dr. J. McF. Gaston in the chair and Dr. V. G. Hitt as Secretary: Drs. K. C. Divine, R. Y. Rudicil, W. H. Credile, V. G. Hitt, W. T. Goldsmith, J. P. Rosser, W. C. Smith, E. L. Connally, G. G. Roy, John R. Jones, J. W. Farrell, James E. H. Ware, John L. Branch, W. C. Smith, Edwin D. Norton and J. McF. Gaston, present.

There were enrolled forty-one surgeons and assistant surgeons before the Convention adjourned. Hospital Stewards were invited to join.

JULY 21.—Association was called to order at 9 A. M. by Dr. Gaston. As no permanent organization had been made heretofore, it was determined that this Association take the initiative, which was opposed by Dr. S. H. Stout, who thought that the surgeons should be organized through the various camps, with the Surgeon-General U. C. V. as directing head. This was overruled by all present. Dr. Stout retired and took no further part in the meetings. A nominating committee for permanent officers named Dr. J. B. Cowan, of Tullahoma, Tenn., as President; Dr. K. C. Divine, of Atlanta, Vice-President, and Dr. V. G. Hitt, Atlanta, Ga., as Secretary.

These gentlemen being duly elected, the Association indulged in discussions and relating various medical subjects and incidents as officers, both in hospital and field service.

The President, Dr. J. B. Cowan, will appoint a surgeon from each State, and give due notice to collect all data of medical history.

The courtesies extended to the Convention by Dr. J. McF. Gaston by invitation to barbecue,* and by Dr. Todd, of Atlanta, to a reception at his home, were greatly appreciated.

The following was adopted by Committee and accepted by Association:

This Association shall be known as the Association of Surgeons of the Confederate Army and Navy. The object of said organization is to cultivate a friendly feeling among the members of the profession who served in the medical department of the army and navy of the Confederacy; also to collect, through its members, all matter pertaining to the medical service of the army and navy. All members of the medical profession who served as surgeons, assistant surgeons, contract physicians or hospital stewards are eligible to membership in said Association.

The following officers shall constitute the official list of said Association: President, Vice-President and Secretary, to be elected annually. The President shall appoint one from each State, who shall be authorized to collect all matter pertaining to the medical history of the Confederacy, the one so selected to be empowered to make such other appointments as, in their

*Given by Alumni of Southern Medical College.

discretion, may be deemed necessary to collect said material When collected said material to be forwarded to Surgeon-General U. C. V., Dr. C. H. Thebault, New Orleans, La., for compilation and preservation, or such other disposition as may be deemed proper by this Association. This Association shall meet annually at such time and place to be designated by the President.

J. J. KNOTT, Chairman.
R. Y. RUDICIL, Georgia.
JOHN R. JONES, Virginia.

Adopted unanimously.

It is expected that many papers of great interest will be presented at the next meeting in Charleston next year, and more perfect organization be made.

Association adjourned.

V. G. HITT.

AN ARTICLE READ BEFORE THE MEETING OF THE EX-CONFEDERATE SURGEONS' ASSOCIATION.

During the latter part of the war I was assigned duty in charge of a railroad hospital in a small town where it was difficult to obtain medicines at almost any cost, and as I had my little hospital crowded nearly all the time both with employees of the road as well as wounded and sick soldiers afflicted with various diseases and all kinds of wounds and injuries, and also general practice in the surrounding country, it would naturally follow that my mind was severely taxed in order to supply remedies and substitutes to meet the demands of such varied practice. I perused my dispensatory and called into requisition an old Botanic practice that had been handed down as a relic of the past, but from which I confess to have received valuable aid and very many useful hints in regard to the medical virtues of our native plants.

Having kept a record of all patients treated, and also remedies used in every case, from which I have been able to gather the following facts which show the general methods to which I resorted, and the various substitutes, at least the principal ones, upon which I mainly relied, I am not sure that in this paper I will be able either to offer anything new, entertaining or instructive to this intelligent and learned assemblage of surgeons, but yield to the request of those having this subject in charge.

I may say in the beginning that, of that large class of medicines so useful in surgery and so much in demand in war times, called antiseptics, many of them—I might say most of them—have been discovered and appropiated to surgical use since our late war; really I think the profession has advanced more and made more rapid strides in this particular line than in any other during the last one or two decades. In fact, I had

but little else at my command except what we called the cold-water dressing for wounds and injuries; from closely watching and nursing, and I might say experimenting, I soon learned to improve on the plain old methods (as I thought, and still think). A decoction of red oak bark added to the water acted as disinfectant, and by its stimulating and astringent properties promoted the healing process considerably; also, a weak solution of bicarb. soda was especially beneficial in the suppurative stage. Often emollients were indicated; I used slippery elm and wahoo root bark, and as flaxseed was scarce with me, at least; and solutions of common salt helped in many cases; and if painful poppy heads, nightshade (belladonna), stramonium would relieve pain.

A part of my railroad ran through a malarious section of the country and consequently I had considerable number of cases of intermittent fevers. And as I was frequently without quinine, I would give strong boneset tea, warm, until it produced free vomiting, then as a substitute for quinine I used during the intermissions plenty of *Cornus florida* (dog wood) bark tea or tea from the flowers, though the bark was preferable; also, red oak bark and common willow twig or bark tea; gave these teas freely during the intermisisons, and when fever rose I usually gave butterfly or pleurisy root tea, which would nearly always cut short the febrile stage.

Remittent or bilious fevers were treated pretty much the same way, except I invariably gave good doses of mandrake or mayapple tea in the beginning. This could be found in nearly all swamps and marshy places, etc. White ash root or prickly ash root were often given in these fevers to advantage, using always the butterfly root tea in febrile stage. Virginia snakeroot, yellow root or Sampson's snakeroot acted pretty nearly as well, though I preferred the other. Of course, if I had blue mass, calomel or other preparations of mercury I would begin treatment by giving a dose or two of that; but with none of these on hand, or quinine either, as was often the case, then the above course was pursued, which would not always act as quickly as quinine, but am sure quite as certainly if persevered in. Mayapple or peach-tree leaves, made in strong tea and drank warm, would act on the bowels as certain as senna; but, with children especially, when too much tea was not desirable, I often substituted beef's feet oil, hog's feet oil, or even lard heated with syrup.

In cases of pneumonia, pleurisy, catarrhal fevers, etc., I made local applications of mustard seed or leaves, stramonium leaves, hickory leaves, pepper, and warm applications, and gave alternately butterfly root and sanguiraria, and kept up to slightly nauseating continued from day to day (no need of anything else). These last two named remedies took the place of Dover's powder, quinine and all other diaphoretics, febrifuges, and arterial sedatives.

Phytolacca, or poke, was another favorite remedy; tincture when alcohol or whisky could be obtained, otherwise tea of root or berries. I used it in all cases of chronic rheumatism or neuralgia, enlarged glands, scrofula, syphilis, and all cases requiring alteratives, often combined with sarsaparilla root, sassafras, alder, and prickly ash.

Female complaints gave me some trouble, but I soon learned the use of black haw, squaw weed, partridge berry, etc. I had been taught in the old text-books that opiates in large doses would control some cases of threatened abortion, when the patient had not lost too much by hemorrhage; I found that the black haw root tea would absolutely stop this tendency, not only in cases where but little hemorrhage had taken place but in most cases where large quantities had passed, and would relieve the most severe case of dysmenorrhœa, especially when combined with squaw weed, partridge berry and red shank. Of late I often use these combined with cimicifuga.

In stomach and bowel diseases I found but little difficulty in finding plenty of substitutes for opiates, astringents and such like; in fact, I believe an All-wise Providence has especially provided the best antidotes in creation on the hills and dales, valleys and streams of our own Southland. In ordinary looseness of bowels or diarrheas an infusion of ordinary raspberry leaves or whortleberry leaves, both of which act finely on kidneys and bladder; where there is nausea of sick stomach, a hand full of peach-tree leaves steeped in water and drank will settle it; or, what is perhaps better, the kernels of two or three seeds, cracked and cold water drank off of it. If a stronger astringent is necessary, the inner bark of red oak, blackberry or dewberry root tea, or red shank root is one of the surest remedies. I was told by comrade Dr. Divine that he used the tea made from the dried leaves of this valuable plant, dried, and given in large quantities to the soldiers under his charge, with most decided benefit, during the prevalence of a most distressing epidemic of diarrhea. Agrimony tea and, as a last resort, the nut gall or ink ball, made into what I called from its color blackwash, made by squeezing the juice out, which is a scarlet red, put into a little copperas and it changes to a perfect black, and you not only have a splendid ink, but a destroyer of syphilitic sores, warts, corns, and old ulcers, and excrescences of nearly all kinds, much superior to lime and calomel. Blackwash weakened a little can be given in obstinate cases of bowel diseases and used as injection for gonorrhea, gleet, etc., and destroys ringworms and tetter. Ordinary silk wood root put in whisky and drank, giving at same time pills of rosin from pine trees with small pieces of blue vitriol in it, will cure obstinate cases of gonorrhea, and is a substitute for balsom, cubebs, etc. I raised lobelia from the seed; found it to be a reliable emetic, useful in cough medicine, croup and asthma. My mother was subject for many years to par-

oxysms of asthma, and always kept lobelia, which at nearly all times relieved her. I have seen her smoke life-everlasting and stramonium leaves with marked effect. We, of course, used spirits of turpentine as an adjunct in all cases when indicated, which is the case in very many diseases and in many cases a positive curative agent. Onions and garlic were useful for poultices in nearly all glandular enlargements, as is also phytolacca root. Celery, pepper, parsley, sage, thyme, rhue, and several varieties of garden products were brought into requisition, mostly used for teas for children and for female disorders. We paid special attention to dietetic preparations, as we had to manufacture most of them from potatoes, wheat, rice, etc. White sumac, red elm, prickly ash and poke will, in connection with my blackwash, cure recent cases of syphilis. It will also cure many cases of chronic rheumatism. Peachtree leaves and Sampson's snakeroot will relieve most cases of incipient dyspepsia. Gargles made of poplar bark with sage and honey will cure most cases of sore throat, tonsilitis, etc.

For infants, calamus, catnip and soot tea is better than soothing syrups with opiates. As a substitute for flaxseed for poultices, wahoo, slippery elm, or, what is still better, the thick pulpy inside mass of cactus leaves; put in fire, burn off stickers and it will be soft and just suited for emollient poultices. —W. C. Smith, Atlanta Ga.

ATLANTA, August 4, 1898.

I desire to state that the publishing of my name as Professor of Physiology in the Dental Department of the Atlanta College of Physicians and Surgeons is not only utterly unwarranted, but has been done in the face of my having declined positively to accept said position.

JOHN C. OLMSTED, M.D.

Selections and Abstracts.

MALARIA AND THE CUBAN CAMPAIGN.

In the spring of 1895 the writer witnessed the departure from Paris of the Two Hundredth Infantry for Madagascar. Beaming with anticipations of a glorious campaign, the young soldiers composing the regiment seemed capable of any physical effort; robust, agile, and merry, they appeared able not only to defy the efforts of any human foe, but also to remain invulnerable to the onslaught of a much more potent enemy, the noxious emanations of marsh lands and pools. The campaign was pushed with energy; but some months later every Parisian's heart was stirred to the utmost by the return of the same regiment, or, rather, what was left of it: a handful of gaunt, yellow "convalescents," several of whom were soon to follow the nine hundred and odd comrades who had preceded them in the other world. The human antagonist had been a myth; the subtile earth-and-water-born enemy had done it all.

The Spaniards have already said that their strongest allies would be the febrile diseases of Cuba: yellow fever and malaria. We have no reason to disagree with them, and, if the disastrous Madagascar campaign is taken as *theme*, it is because from the sanitary aspect there is a striking analogy between it and the Cuban campaign upon which we have just embarked. Geographically, Madagascar and Cuba may be called "sister isles"; the former is centrally traversed by the 22d degree of latitude south, the latter by the 22d degree of latitude north. Both lie to the southeast of the mainland; both are surrounded by warm ocean currents; both are paradises of fertility—studded with hot-beds of decaying vegetable matter, marshes, and swamps. When the resisting powers of the French and American forces are compared, they may be said to be very similar; the Foreign Legion of France is represented by our regulars; the French regiments of the line, made up of men between twenty-one and twenty-four years of age, about correspond to our volunteers, ranging in age from twenty-one to thirty-five, who compensate through their greater proximity to full development for the superior physical training of the French troops,—which, by the by, malaria in no way respects. As to the sanitary organization, the French medical corps was severely criticised by the lay press when the deplorable condition of the troops was made known; how far this was warranted it does not belong to us to state, but it can safely be asserted that a more loyal and better-versed corps of military surgeons can be found nowhere.

XUM

The fact remains, however, that if such results are possible with a medical corps organized on a permanent footing to satisfy the needs of a standing army of half a million men, to expect perfect service from a corps such as ours, elaborated for an army of twenty-three thousand men and suddenly increased to one of nearly two hundred thousand, is certainly paying Surgeon-General Sternberg a high tribute; one, indeed, which he truly merits.

The picture witnessed at Madagascar, however, can but suggest the possibility of similar experience in our case. A review of the main features of the French expedition may, therefore, prove instructive.

Among the multitude of statements published during the Madagascar campaign in connection with the high mortality among the troops, but three general factors seemed to be based on good ground: 1. A certain amount of friction between the army and navy, which indirectly caused vexatious delays and undue retention of troops in malarial districts. 2. Unwarranted subservience of all considerations bearing upon the health of the men to the needs of the expedition. 3. Inadequate application of prophylactic measures as a result of the first two factors.

We have no reason to believe that there exists any friction whatever between our army and navy. As to the absolute subservience of all hygienic considerations to the needs of the campaign, we surmise that no decisive step is taken by the Secretary of War when troops are to be transferred to malarious regions without due consultation with the Surgeon General, and that his advice is the primary ruling factor. As to the third, it is normally eliminated by the absence of the first two drawbacks. We can, therefore, feel that the conditions which have prevailed in Madagascar are not to be feared, *provided our means of prophylaxis are adequate.* But is this the case? Can we rely upon the preventive means dictated by prevailing views to efficaciously protect our troops? We must admit that our confidence becomes suddenly checked at this point. In the editorial offices of the *Annual* we peruse thousands of papers yearly, and we have learned to fear an exaggerated confidence in the teachings of experimental evidence. We have observed that, since bacteriology has invaded the very confines of pathology, experimental work has overshadowed clinical experience, and what the laboratory does not prove, what experiments do not show, is often refused in practice. If this tendency is not counteracted in the application of sanitary hygiene in the Cuban campaign, we might as well frankly admit that we firmly expect another Madagascar. Our purpose here is to urge that the distinguished members of our profession who are at present at the head of the army, navy, and marine-hospital bureaus be not unduly influenced by experimental evidence in the elaboration of the protective measures to be carried into effect.

Recently a prominent pathologist advanced the statement that at the present time there are only two theories as to the mode of transmission of malaria infection that are worthy of consideration, namely: that it occurs aerially, or by inoculation through the agency of suctorial insects. Such an assertion is quite acceptable when uttered as a theme for discussion before a medical society, but it is a very dangerous one to act upon when prophylactic measures are to be put into effect. True, the organism which is known to produce the fever called "malarial" in mankind has not been found outside of human blood; true, we have not been able so far to produce the disease experimentally by administering drinking-water from malarial places, but time has so frequently and so thoroughly contradicted positive assertions based on data of this kind, that negative experimental evidence thus obtained should count for naught when the least practical evidence to the contrary is obtainable. What we really know is that there are many factors, objective and subjective, which, acting, more or less conjointly, can give rise to malarial fever. Concerning two of these, aerial transmission and inoculation, we know something tangible; a third—the influence of drinking-water—does not occupy so advanced a position; a fourth—the predisposing influence of fatigue and heat—is still less understood; a fifth is hardly recognized: the effect of drenching either by wading across streams or by rain, or bathing in the waters of malarial districts, etc. That does not mean that we do not have evidence to sustain the belief that each one of these etiological elements may play an active part in the process; it simply indicates that the majority of them are not as yet understood. What do such negative experiments as those conducted by Celli and Zeri—the giving of marsh-water as beverage for a prolonged period to a large number of individuals—prove? Had their subjects been submitted to the exhausting effects of military life, long and perhaps forced marches; had they also inhaled "malaria" and used surface-waters from malarial pools as beverage, these investigators would probably have obtained different results. The coincidence of arduous field-service and fever has often been noticed; so great an authority on these matters as Laveran places transmission by drinking-water at the head of the list of pathogenic factors, and he has shown that malarious countries have been traversed with impunity by drinking only boiled water. Dr. Smart, of the United States Army, has witnessed the improved condition of troops suffering from malaria as soon as purer water-supplies had been afforded; our esteemed colleague, Dr. Shrady, editor of the *New York Medical Record*, has emphasized it.

While laying stress upon factors which may not have received the attention due them, our aim is not to undervalue those to which pathologists attribute the active role as intermediaries. Indeed, the Madagascar campaign affords a strik-

XUM

ing lesson as regards the importance of aerial transmission. To facilitate the transportation of baggage into the interior of the island, the French government had supplied its troops with metallic wagonettes, so constructed that they could be floated across streams. For one cause or another it was soon found that they could not be used, and the construction of a cross-country road was determined upon. The young soldiers were put to the task, and bravely and uncomplainingly they worked. Soon, however, the sick-list increased, and, by the time the road was finished, the mortality-list had become appalling. Why the military authorities permitted this when natives could be had to do the work it would be difficult to explain. To us, the lesson taught by this holocaust of victims is that under no circumstances should unacclimatized men be employed to work the soil. "Europeans must not attempt to work the ground in the intertropical regions," writes Medical Director Maurel of the French navy; "it is death to them, but it does not injure negroes or other natives, who should be secured for this purpose." The importance of aeriel transmission is further shown by Dr. Maurel's personal observations. In Africa he had spent nights tramping in the marshes without suffering the least inconvenience, while his assistants suffered from chills, merely because they did not seem to be able, literally speaking, to "keep their mouths shut." He absolutely refrained from talking so as to allow none of the miasmatic air to reach his lungs through the mouth, the nasal passages, as is well known, acting as a sterilizing apparatus through the destructive action of the nasal secretions upon an atmospheric organism.*

The bearing of atmospheric conduction upon the prophylaxis of malarial diseases shows itself in many other ways.

The accumulation of malaria near the surface accounts for the generally recognized fact that people who sleep on the ground-floor frequently suffer, while those who sleep in the upper stories remain unaffected. Hence the recommendation of hygienists to build houses on high places as far away as possible from gas-laden marshes and pools. The influence of accumulation on low levels was well shown recently by Mr. Stanley Kellett Smith, who related, in the *Lancet*, his observations during an exploration of the country west of Lake Nyassa. It was found that among the men on the march there was a close connection between fairly rapid alterations

*I would venture to suggest that we may have, in this prophylactic function of the nasal cavities, a clue to the manner in which the system becomes infected through the respiratory tract. As is well known, to work malaria soil before the sun is well up or after the sun sets is a source of great danger. The pathogenic element, whether it be organic or gaseous (*grundluft*), being widely dispersed through solar heat, the nasal mucus easily disposes of the comparatively few germs present—if such be the active factors. At night the miasmatic air lies low, the proportion of malarial agents is comparatively much greater, and enough pass the nasal cavities to infect the system. This would clear a potent impediment in the way of the air-conduction theory, namely: the fact that malaria is not transported by the winds. It seems plain that strong air-currents should also be able to cause a wide diffusion of malarial elements. This view also accounts for the fact that malaria does not behave after the manner of diseases due to the inhalation of dust. Malaria, on the contrary, is most active on sultry days, when there is no wind, and on days following rain, when the dust cannot rise.

of level and the occurrence of malarial manifestations. Whenever the route lay across level or gently sloping country fever was rare, but quick change from high veldt to low veldt and vice versa was always marked by a great increase in the number of attacks. Again, the inhabitants of the Pontine Marshes have learned by experience to sleep on platforms supported on stakes from twelve to fifteen feet high; a practice which is also resorted to in the malarious districts of Greece. These facts sufficiently sustain the advantage of camping troops upon the most elevated ground that can be reached, the tents being so placed as to have their rear face the dominant wind of the region. In bivouacking, hammocks—readily transportable by cavalry and artillery—hung as high as possible materially reduce the chances of malarial infection by holding the sleeper, if not entirely above, at least in a comparatively arrefied part of the malarial stratum.*

The evidence in favor of contamination by suctorial insects is no less strong, and the fact that the musquito can thus transmit the pathogenic element of malaria is gaining ground every day. Two years ago Manson produced, in the human subject, attacks of typical malaria by the imbibition of water inoculated from the bodies of musquitoes which had bitten persons suffering at the time from malarial fever. Draining off the soil causes mosquitoes to dissapear; they enter rooms and are most active at night, and they always fly near the ground, especially around pools. All these features thoroughly associate the mosquito with malarial agencies. According to Bignani, the insect deposits its eggs in water or in damp places; from the eggs are hatched larvæ, which, very voracious, devour everything they encounter, among other things the bodies of the dead mosquitoes and the envelopes from which they emerged. Then they pass into the state of nymphæ, from which emerge the young mosquitoes. During this long period of life in damp soil or in water, and especially in the state of larvæ, they impregnate themselves with malarial germs.

Emin Pasha, during his long sojourn in Africa, had, as his constant companion, his mosquito net. The overseers of estates and farms in the Roman Campagna, who less frequently suffer from the fever than their laborers, are especially careful to avoid the bites and stings of insects, particularly during sleep. In autumn the mosquitoes increase after the rains, and so does the fever; both diminish with distinct parallelism.

Practically, mosquitoes probably represent the most trying

*While traveling in tropical countries I found this method very satisfactory, although it was sometimes difficult to get in and out of the couches. When the trees are too far apart a strong rope can be used as support, each end of the rope being tied to one of the trees. Several hammocks can then be hung to the rope, end to end. To avoid the danger of falling, the edges of the hammock just above the center should also be attached to the rope above. Two large trees, twenty to twenty-five feet apart, and three pieces of strong Manila rope, placed side by side, can thus serve for ten men. A mosquito net passed over the rope and adjusted around the hammock affords adequate protection against mosquitoes, gnats, flies, etc.

foe one has to contend with in malarial districts, when rapid changes of camping-grounds are necessary; but fortunately, the other prophylatic measures required include the selection of high ground, located as far as possible from pools, etc., and, as musquitoes are absent, or, at least, not so numerous under such conditions, unless winds passing over swamps carry them, the men will frequently obtain moments of respite from their attacks. It is during marches which take in high and low ground, virgin forests, swamps, pools, and shallow streams that the little pests become intolerable, and any one who has tried under a tropical sun to cover head and hands with mosquito netting knows what Hades might be like; it is something like being stifled and parboiled at the same time. At night, however, netting can be advatageously employed in many ways, even when lying under tents, which seem in no way to prevent their entrance.*

As may be seen, there is solid ground for the belief that atmospheric conduction and inoculation by suctorial insects—the musquito being probably but one of the active parasites involved—are important—perhaps the most important—elements in this case; but what we wish to emphasize is that other factors, acting simultaneously with the main ones, may prove equally active; sufficiently so, indeed, to counteract prophylactic measures based upon a narrow view of the teachings of experimental work. Interesting in this connection is a report of one of our correspondents upon the methods employed by the Zulus to enable them to resist tropical diseases. Experience has taught them that in warm countries frequent ablutions, especially during active perspirations, debilitate the system, and that baths are frequently followed by malarial fever. Copious ablutions in their opinion "open the pores" and facilitate the ingress of the malarial poison; their aim, on the contrary, is to close these avenues for disease-germs, and to insure this they apply fat over the entire body. Our correspondent, Mr. Crooenberghs, during a long residence among the Zulus, determined to test the accuracy of these observations. The results he gives in the following words: "I had obtained this information from Antione d'Abbadie, of the Institute of France, and certainly found it applicable in South Africa. We both observed its teachings and lived. while all those among my companions who sought relief in the free use of water in Africa died. The three who had, like us, abstained from its use still live." The habit of anointing the body with fat as a prophylactic measure is not

*For campaigns in tropical climates, our tents appear to be very deficient. The ground over which they stand allows the "*grundluft*," or "ground-air," upon which German authors lay stress as a prominent etiological factor of malarial fevers, to freely contaminate the air; the interstices under the walls and flys permit the free ingress of reptiles and insects. These defects could be easily counteracted by adding to the tent a water-proof canvas base or "floor" sewn to the bottom of the perpendicular canvas ends and sides, and rising in front some inches above the ground under the flys. Such a tent could be closed in on all sides and would afford greatly increased protection against the most active disease-dealing agents nature supplies in the tropics, and enable the troops to profit, to a great degree, of the hours reserved for rest.

mited to the Zulus. A number of African tribes resort to it, and I am told that the blacks in some parts of Guiana and other portions of South America do likewise. Indirect sustaining evidence is also obtainable in the records of explorers.

Are we to infer that the malarial poison is actually absorbed by the skin, or should we attribute the symptoms to the contact during active diaphoresis with water of a lower temperature than that of the body, as is the case in any climate? This answer can only be given when we shall have ascertained the nature of the element through whose intermediary the system becomes infected. The malarial organisms have not been recognized outside the blood of human beings; we know nothing of the life-history of the supposed parasite acting as external factor; we do not even know what malaria-laden air is laden with. Is it a spore, a ferment, a toxin, a gas? We do know, however, that the skin does absorb medicaments and that by cataphoresis we can sometimes cause the taste of a drug applied externally to at once be perceived. Grouping several factors,—(1) the predilection of malarial miasm, whatever that may be, for water,—leading to the natural deduction that a pond, a rivulet passing through a malarial region, etc., is but a solution or a mixture of the infectious element or elements; (2) the reduction of resisting power—whatever that may be—induced in the individual exposed to fatigue; (3) the relaxation of the skin incident upon or following active perspiration,—we can but conclude that there is sufficient ground to warrant at least a strong suspicion that the Zulus are right, and that the precautions that experience has suggested to them should be followed, with due regard, of course, for habits of cleanliness which characterize Anglo-Saxon civilization. Let it be said, however, that we have in this very quality a source of increased danger. The first impulse of the men when nearing a lake, a pond, a river, after arduous marching under a broiling sun, will be to "plunge in" and by doing so, inhale, drink, absorb, and what not, the element of destruction. How can this be prevented? The answer is: strict discipline as regards the enforcement of sanitary measures emanating from the surgeon-general's office. Cuba is not malarious everywhere. The men will, as much as possible, be camped where malaria is positively known not to exist. Here, of course, the camp-routine may be followed. It is in regions known to be malarious or where the least doubt exists that steps should be taken to protect the men from the effects of their own recklessness. Here, even, there are opportunities which may be taken advantage of to satisfy their bathing proclivities. The Zulus avoid bathing except during heavy rains, but they take advantage of these whevever opportunity offers. After resting there is no reason why the men should not be allowed to do likewise. During dry weather, however, cleanliness should be obtained by other means. Whatever be the malaria-causing factor residing in water, utilization of all

the means we know of would alone insure comparative safety. But the transportation of condensing apparatus for larger quantities of water would, of course, involve considerable difficulty. The next best procedure would be to boil the water; here, however, the chances that "ground air" would be eliminated would be slight. Accepting "ground air" as an active factor and not knowing its identity, chemical means can not come to our aid. We are reduced to the use of small quantities of water for cleansing purposes in miasmatic regions when rain-water is not procurable. Washing the body with a bowlful of the local water, provided carbolic-acid soap be used on the wash-cloth, will, as far as we know, destroy any organism that may be present, while the small quantity on the surface will contain so small a quantity of "ground air" as to eliminate any danger of contamination should this happen to be the noxious agent. The carbolic-acid soap will also tend to prevent the attacks of the smaller insects, such as fleas, lice, ticks, etc.

Drinking-water, as we have already seen, merits the greatest attention. In the British service this subject is considered as one of capital importance, but, unfortunately, the manner of satisfactorily supplying sufficient quantities of pure water is far from settled. Dr. R. H. Castellote, in the *Lancet* of February 12, 1898, published notes on the Niger-Soudan campaign of 1896, which not only emphasize this fact, but also give valuable details regarding the use of portable filters. Each man had been supplied, as had been the case in the Ashantee expedition, with a small pocket charcoal filter in a metal case. These were found handy, but they required very frequent cleaning and the "inspiratory power required to get a small result" caused a strong tendency among the men to discard their use. Pasteur-Chamberland filters also required too frequent cleansing and soon had to be abandoned owing to the destructive wear and tear of transportation. Altogether the question of portable filters in the tropics was found to be a difficult one. Dr. Castellote outlines the principal requirements that an expedition filter should present, and furnishes valuable hints based, of course, upon personal observation:

"A filter should be strong enough to stand the knocking about that things get from native servants and carriers; it should be capable of turning out a large quantity of water in a short time; should be easily taken to pieces for the component parts to be cleaned at frequent intervals (the amount of deposition on porcelain or charcoal is evidence of the quantity of suspended matter in the water at most places); to be useful at short halts on the march it should be easily set going and packed up again; and, lastly, it must be fairly portable.

"On the whole, probably one of the larger forms of Pasteur-Chamberland filters fitted with pump and with the body made of earthenware or galvanized iron, and securely packed in an outer jacket of wood or wicker-work would turn out enough

water for twenty men in a short time and would answer most of the other requirements. The only point not satisfactory would be its portability. It would form a complete load for one carrier, and if of earthenware possibly would have to be carried between two.

"Whenever possible, undoubtedly the best and most certain way of purifying, or, rather, sterilizing, water is by boiling. This in itself is sufficient to make the water good and palatable for drinking purposes if it is naturally fairly clear; but if, as usually is the case, there is much suspended organic matter in it, this can be largely removed by straining through fine muslin or a clean pocket-handkerchief before boiling.

"Boiling was the process, on the failure of our filters, that we most generally relied on for getting a drink. Each white man carried a vulcanite water-bottle of about one and a half pints' capacity, covered with felt and fitted with padlock, which was filled up with boiled water, tea, etc., over night. But with thirsty men on a long day's march under a tropical sun it can readily be understood that one and a half pints of fluid did not go very far, and three or four hours generally saw most of the water-bottles empty. After that, one had either to exercise a great deal of self-control or risk drinking unprepared water whenever we came to it. It was not nice and it was not wholesome, but at all events it was wet, and I think the latter quality was the one which recommended itself to many. The vulcanite bottles require careful attention. In a short time, especially if used to carry tea, they acquire a musty, stale odor, which communicated a similar taste to the water. Hot water shaken up with a little clean sand soon disposes of this trouble. The felt coverings absorb a good deal of water, which, on exposure to the sun and wind by evaporation, renders the contents of the bottles very fairly cool. It was customary to dip them whenever we came to water." These are timely hints.

A few words concerning prophylactic measures addressed directly to the blood may not be out of place. That quinine merits, on the whole, the confidence of army surgeons as a potent prophylactic need not be emphasized; we positively know that the spores of the *plasmodium malariæ* are extremely susceptible to its action, even when the proportion in the blood is minute. But we also know that it occasionally fails, *especially when general measures of prevention are not resorted to.* The conclusion imposed upon us, therefore, is that quinine should occupy an important position in the general prophylactic plan adopted, but that it should not alone be depended on; in other words, none of the other measures should be be neglected if its best effects are to be obtained.

What is the best salt to use, what is the quantity that should be imployed, and, lastly, what is the best time of the day to administer it to prevent untoward effects, gastric and general? Our late associate editor, Dr Dujardin-Beaumetz,

having announced to the Societe de Therapeutique of Paris that the soldiers about to be sent to Madagascar were to carry with them, for prophylactic purposes, a considerable quanity of quinine, and that it would be desirable to know if one of the salts of that drug were preferable to another, and also which was the most suitable pharmaceutical form for administration, the society appointed a commission to investigate the subject. The results of their studies were embodied in the following conclusions; 1. The basic quinine hydrochlorate is to be preferred as a prophylactic measure, as being sufficiently soluble and containing the largest quantity of the alkaloid. It is also less irritating to the digestive passages than the sulphate. The hydrobromate should be employed in rebellious cases of fever in which the sulphate has failed. 2. The compressed preparations should be absolutely rejected; pills made with a soluble excipient or gelatin capsules seem to be the preparations of choice in preventive treatment. 3. Two pellets or gelatin capsules containing four grains of the hydrochlorate may be given daily; one in the morning and one in the evening. This quanity will be sufficient to maintain the organism continually under the influence of the quinine.

For the reasons already outlined, the prophylactic use of quinine was not systematically resorted to during the Madagascar expedition, but a review of the general literature on this subject has shown that the above conclusions coincide with the views of the majority of writers who speak from the standpoint of personal experience. Small doses are not reliable; large doses are apt to be hurtful. Four grains night and morning were found to do no harm, even if administered during long periods; provided the drug was given during meals. Administered in this manner, quinine will not even, according to Laveral, irritate the stomach. The author also recommends the hydrochlorate; but he states that it should not be taken with coffee, this beverage causing a portion of the quinine to be precipitated. Thin advises that it be given two days before the malarial district is reached.

In the preceding pages stress has been laid upon the fact that the experimentally demonstrated data at our disposal concerning the etiology of malarial fevers are insufficient to serve as reliable guides in the selection of the proper prophylactic measures to be used in a campaign so fraught with climatic dangers as that just begun; it has been suggested that, by using, in conjunction with these, the protective measures that explorers, expedition surgeons, residents of malarial districts, etc., have found effective,—although the *modus operandi* of these measures be still unexplained,—the efficiency of our life-saving efforts might be enhanced. Finally, it has been shown that a broad view of the question seemed to indicate that the fever-producing elements reached the system in various ways, and that it was only by counteracting simultaneously all the fac-

tors acting as intermediaries between cause and effect that we could hope for the best results.

Considered from this point of view, the following prophylactic measures, carried out simultaneously, become necessary in malarial districts to insure adequate protection:

1. To avoid contamination through the respired air and inoculation by insects:

Unacclimatized men, white or black, should not be employed for the digging of trenches, the erection of defences, or any other kind of work involving upturning of the soil. Natives should alone be utilized for this work.

High ground should be selected for camp-sites, windward, if possible, of any swamp, pool, stream, etc., that may be in the neighborhood.

The men should sleep as high above the ground as possible (not less than two feet and, if practicable, from twelve to fifteen feet) and be provided with mosquito netting.

While crossing the malaria-laden forests, glens, lowlands, swamps, etc., the men should be ordered to avoid talking.

2. To avoid contamination by water:

When water from malarial regions is alone available for drinking purposes, it should be filtered or, preferably, sterilized by boiling.

Bathing should not be permitted when water from a malarial region can alone be obtained, but washing of the body with such water is permissible, provided carbolic-acid soap be employed.

3. To prevent the development of malarial parasites in the blood:

Four grains of hydrochlorate of quinine should be administered morning and evening during meals as prophylactic, beginning two days before the malarious region is reached.

4. To conserve the general powers of resistance of the economy.

Regular and frequent periods of rest should intersperse long marches. Drenching and wading through streams should be avoided when possible. Varied and adequate food should be furnished.

The head should be so protected as to secure a mamimum amount of coolness under all degrees of temperature, a headgear such as the solar tepe being furnished for this purpose.

It is obvious that the necessities of a military campaign greatly restrict possibilities, but the fact remains that the aim should be to do the best that can be done, all things considered. This will certainly be the case with such men as Drs. Sternberg, Van Reypen, and Wyman at the helm, and with the valued collaboration of Dr. Guiteras.

Speaking of malarial diseases, the *London Lancet* of March 12, 1898, very appropriately says: "We are impressed with the lamentable deficiency of exact knowledge which is still manifest notwithstanding all the industry of innumerable ob-

XUM

servers in the past fifty years." To recognize this is a great step forward; to recognize it in time before the lesson will have cost us a host of victims, as did to France during the Madagascar campaign, may, perhaps, do more for our cause than all the armies the country may bring to the front.—*Charles E. de M. Sajous, in Monthly Cyclopedia of Practical Medicine.*

THE PROTEAN FORMS OF TUBERCULOSIS.

Thanks to bacteriologists and pathologists our ideas concerning many diseases are greatly changed from the opinions of the last generation. As a result of the development of these two sciences, the supposed relationship of many diseases, and their classification, have been modified to a considerable extent, and with two opposite effects. Distinct diseases like gonorrhœa, chancroid and syphilis, associated in origin, and frequently assumed to be related forms of the same disease, have been thoroughly differentiated. So, too, sarcoma and actinomycosis hominis, though symptomatically similar, and pathologically nearly identical, have revealed their distinguishing characteristics. On the other hand, apparently dissimilar affections, like psoas abscess and lupus have been shown to be only different manifestations of the same disease. For our knowledge of tuberculosis we owe much to these sciences. In the recognition of the cause, the symptoms and the diagnosis of these conditions, we have made great progress. Furthermore, the determination of the primary and secondary forms of the disease by the microscope and the needle has become possible, and often materially modifies the prognosis. In treatment we have progressed also, and yet we must frequently admit our helplessness. Surgery is able to do much more than ever before, and yet it has its limitations. From serum-therapy we have had a degree of encouragement. In the absence of a more specific antitoxic remedy, preventive medicine offers our greatest resource against this hydra-headed disease.

LEPROSY IN CUBA.

BY WM. THOMAS CORLETT, M.D., L. R. C. P. LOND.,

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Leprosy, being one of the oldest diseases with which we are acquainted, is always of general interest; but leprosy in Cuba is especially of interest at this time. It is doubtful whether the leprosy spoken of in Leviticus, which is supposed to have been written about 4,000 years ago, is identical with the leprosy as we know it to-day. Of this we are positive, that many diseases entirely distinct from leprosy were regarded as such and were spoken of in the Holy Writ. In later times the disease seems to have been widespread throughout Europe, although in England it has not existed as an epidemic disease since the 16th century. On the contrary, in Norway and Sweden, Southern France, and in Spain, the disease is still met with, and in some places it is of common occurrence. In Northern Africa, the East and West Indies, Mexico, and scattered throughout the Southern States of our own country, a few sporadic cases may still be found. Six years ago, while visiting the island of Cuba, I was especially fortunate in meeting a medical gentleman, Dr. Enrique Robelin, who is thoroughly familiar with the disease as it exists in this island. He was of the opinion that fully 200 cases existed in the city of Havana, and the disease was equally prevalent throughout the island. Lepers may be frequently seen on the streets of Havana, and in the shops mild forms of the disease may be occasionally seen. Especial effort was made to ascertain whether or not any precautions were taken to exclude them from the tobacco factories. The foreman in one of the cigar departments told me there were no lepers in his room, nor could any evidence be found to the contrary from a casual inspection of the parts of the skin exposed to view. More danger would arise from the paper used in making cigarettes, although no cases have come under my observation where the disease was presumably contracted in this way.

Especially interesting was the Hospital San Lazaro, situated in the city of Havana and containing at the time of my visit 87 cases of leprosy presenting the various stages of the disease. This hospital is one of the most celebrated now existing for the exclusive reception of this class of patients. It was founded many years ago by a gentleman, himself a leper, who bequeathed extensive lands in the suburbs of Havana to the founding of an asylum for those similarly afflicted. As the city increased in size the lands became more valuable until, at the time of my visit, the rental derived from them was more than sufficient to meet the current expenses of the hospital. It is to be regarded more as an asylum for lepers than a place of segregation; no compulsory laws exist in Cuba for the isolation of lepers, although at all times they are admitted to the

San Lazaro and cared for until they wish to change their surroundings, or are compelled to depart to that world from which no traveler returns. No effort is made to treat the disease, and they are cared for by attendants who administer to their daily wants and do what they can to mitigate their sufferings. Should American troops invade Havana, or should the island become annexed to the United States, the problem of properly caring for the lepers would naturally arise.

Much dread is manifested in coming in contact with the disease. Its contagious nature has long been known, and until we became more familiar with its methods of propagation, unnecessary fear prevailed. Through the efforts of Hansen and others we are made familiar with the active principle, the germ of the disease, which when inoculated in another gives rise to leprosy. It is only by inoculation therefore that the disease can be taken. The disease is not highly contagious, and one having a sound skin might come in daily contact with it without danger, whereas the slightest abrasion on the surface might serve as a port of entry and receive from particles of dust containing the bacillus lepræ the seed which might develop the disease. This process is slow in its action, and numerous instances are recorded where the disease has developed years after the person has migrated to a country where leprosy is unknown. The course and stages of the disease are likewise of long duration, so that years rather than months are counted in its evolution.

Before the real cause of leprosy was known many theories were advocated to account for its distribution over the globe. One of the most persistent advocates of a dietetic cause of leprosy is Jonathan Hutchinson, of London, who still maintains that an exclusive diet of fish is the cause of the disease. Coming from one so well-known to be an authority on different medical subjects, the fish theory of leprosy has received careful consideration. It is not, however, accepted by other leprologists, and to-day the germ cause of the disease is generally accepted. Experience proves, therefore, that the disease is not a menace to life when due precaution is observed. In most of the hospitals of Europe leprosy is received in the general wards with other cases. In the Hospital Saint Louis of Paris there are frequently from four to six cases in the wards, and in London there are usually a dozen or two cases scattered throughout the city at any one time. Hamburg, too, has a large contingent of lepers, being a seaport town and brought into intimate relationship with leprous countries. In Unna's hospital, two years ago, there were about a dozen cases. The danger of contact is regarded as similar to that of syphilis, to which the disease bears many points of resemblance. After inoculation the person remains in a normal condition of health for a variable length of time, which may be months or years. Finally, however, the germs of the disease develop and produce their unmistakable train of symptoms.

There are two main varieties of leprosy which clinically appear quite distinct. The onset of the two forms is the same. There is usually a general feeling of malaise, chilliness, and stupor. Indigestion is oftentimes a prominent symptom. This may subside or alternate with periods of comparatively normal health. Soon, however, the special lesions of the disease become apparent. There is usually a reddened or erythematous condition of the skin, extending over large areas, usually occurring on the face, although no part of the body is exempt. The areas are larger, covering several square inches, than are other eruptive diseases. The redness, too, is more persistent, lasting for weeks or months. The color is characteristic, being of a reddish-brown or light mahogany color, sharply defined, unaccompanied by pain or itching. At this time the symptoms of the disease vary according as one or the other form of the affection ensues.

In the *tubercular form*, reddish nodules, which vary in size from large peas to marbles, are seen in the folds of the skin. At other times the skin of the face, notably of the forehead, seems to be thickened, and the natural folds deepened, giving a rigid or lion-like countenance to the victim. As the disease progresses these tubercles enlarge, some coalesce, and finally, after years, break down and ulcerate. New lesions appear on the extremities, notably the fingers and toes, which go through the same cycle of events. When ulceration takes place, however, one section of the finger, including the bone, becomes detached. This is not always the farthest removed or distal extremity, but a section of finger may drop out, as it were, and the distal portion become contracted to take its place, thus shortening the length of the digit. At other times the fingers or toes become distorted, ankylosed, and shriveled. As the disease progresses the various parts are eaten away until, as in many cases observed in San Lazaro, the hands and feet consist of club-shaped extremities.

The throat seldom escapes, the same process going on as above described. At first the voice is husky, later a shrill whistling sound is produced in attempting to speak, and finally the patient succumbs either from exhaustion or from some concurrent malady. This extends over many years, however, and the patient a leper from youth may live to old age.

In the second clinical type, the neurotic form, the disease attacks mainly the nerve trunks, producing anesthetic areas and marked discoloration of the skin. Unquestionably the disease which we now call vitiligo was confounded with leprosy among the ancients; the white areas of this disease, especially common among the dark races, bearing some resemblance to the discoloration of the anesthetic form of leprosy. But in the former the sensibility of the skin is not impaired. There is a complete removal of pigment and an increase of pigment granules in the skin surrounding the marble-like area. Whereas, in leprosy, the spot, although of a whiter color, is not entirely

devoid of pigment, and there is not an exaggerated tint in the regions surrounding. The whitened spot is usually insensitive to sharp objects thrust into the skin; thus, a needle may be inserted through the entire thickness of the skin without its being perceived. The course of this form does not differ materially from that previously described in the tubercular variety. Recessions occasionally occur, but the disease pursues, for the most part, an uninterrupted course until in from ten to thirty or forty years death comes to the patient's relief.

The Treatment of Leprosy.—Doubtless many cases do, when removed from debilitating conditions such as obtain in many leprous countries, such as heat, moisture, bad hygienic surroundings, insufficient food, etc., which contribute largely to hasten the course of the disease—show marked improvement, and in some instances the disease apparently leaves. It is not, however, a permanent cure, as invariably the disease returns upon any lowering of the general vitality.

Drugs of various kinds have been vaunted from time to time as a panacea for this one of the greatest of human ills. Experience has demonstrated, however, that none of them possess infallible qualities, nor can they be regarded in any way as specifics. Chaulmoogra oil has probably enjoyed the greatest popularity in the treatment of leprosy, having been first advocated by La Page, of Calcutta. From its long use and the carefully prepared reports of various observers, we are able to-day to judge of its merits. It possesses without question qualifications in the amelioration of the disease, and under its use the lesions seem to be held in abeyance if they do not entirely disappear. The disappearance, however, is not of long duration if the medicine is discontinued, for invariably the disease finally returns.

Climatic conditions and hygienic surroundings undoubtedly are of the greatest importance in its eradication. Of the sixteen or more emigrants from Norway, known to have been lepers, who settled in the Northwestern States of our own country, especially in Minnesota, but few are now known to have the disease. Either the original settlers have died out without communicating the affection to others, or the conditions there existing have proven efficient in a curative way. We have reason to believe, were the Cuban lepers to migrate to a cooler climate, where better hygienic surroundings obtained, their condition might be greatly improved. There can be no doubt, however, that much danger would ensue to those with whom they might mingle. The only way of preventing and exterminating the disease is unquestionably by segregation. This has been found extremely difficult, and in some instances well-nigh impossible. In the Sandwich Islands efforts at segregation have not always been completely executed. The island of Molokai, set aside for their reception, has been shunned by lepers, and every method has been adopted to escape the vigilance of the authorities. Segregation has

been practiced for many years in the maritime provinces of Canada, notably at Tracadie, in New Brunswick, with the result of protecting the people at large and of gradually exterminating the malady in this region.

Finally, as to the danger of commingling with lepers, the sensational reports of Father Damien, who contracted the disease while acting as a missionary in the Sandwich Islands, are familiar to all. Yet with care, and understanding the method of propagation, one may associate with lepers with but little danger. Neither is there danger in allowing lepers to remain in a community, provided they are not brought into intimate relationship with those not affected. Care to cover all denuded surfaces with flexible cellodion or other protective is imperative. Care to use no drinking vessel, pipe, or other substance handled by lepers is equally necessary to avoid the disease. The paper currency in circulation in Cuba is a source of danger, and care in handling it should not be lost sight of. Finally, it should be borne in mind that anything which tends to lower the general vitality of the body predisposes to the development of the disease.—*Cleveland Medical Journal.*

THE SPANISH MILITARY MEDICAL SERVICE IN CUBA.

We can afford to be generous enough not to let our natural feeling against Spain at the present juncture blind our eyes to the one aspect of the Spanish occupation of Cuba which is extra-national—the services of the Spanish military medical officers—and take credit on behalf of the only cosmopolitan profession for their record as given by a special correspondent in the *Lancet* for June 11th. The writer thus closes an exhaustive report: "Altogether, and for the entire medical military services of Cuba from the commencement of the insurrection to the middle of the year 1897, no less than six hundred surgeons have been engaged in attending to the sick and wounded. Of these, fifty have died in the accomplishment of their duty, the greater number being victims of yellow fever. Six dispensing chemists have likewise met with the same honorable fate. Twenty-five surgeons were wounded on the field of battle and four were killed. There can be no doubt that the military medical staff showed under the most trying and dangerous circumstances all the courage and heroism which have so often distinguished the Spanish people in general and the medical profession in particular." While patriotism is limited by geographical confines, we should be proud as a profession to feel that professional zeal and loyalty are universal in their reach, and that the ever-earnest contribution of even the humblest member affords an increment to the treasury of humanity.—*New York Medical Journal.*

DISEASES OF TROPICAL CLIMATES.

Just at this time our attention is called to the diseases prevalent in tropical climates which are likely to attack our army, perhaps proving more formidable foes than the fiery Spaniards. Dr. T. S. Dabney read a paper on this subject recently before the New Orleans Parish Medical Society (*New York Medical Journal*, June 18), which is of interest and value to Northern physicians who have had little or no practical and personal knowledge of the diseases met with in southern countries.

Contrary to what one might expect, he says that heat-stroke is not peculiar to the tropics and we have little to fear from it if proper attention is paid to the predisposing causes. Anything that tends to depress the vital powers is largely responsible for heat-stroke, particularly during the rainy season when there is great humidity, continuous high temperature and lack of cooling breezes. Soldiers should not be required to do much hard work for at least a month after landing in a tropical country. The treatment of heat-stroke is practically the same everywhere, cold baths with vigorous rubbing with crash gloves. Iced enemata often proves valuable. The patient should be taken out of the bath when his temperature reaches 103° F.; he should be wrapped in a blanket and hot bottles placed around him and a stiff drink of whisky generally be given.

Tropical anemia is due to an intestinal parasite, a reddish brown worm from eight to ten millimetres in length. By strict sanitary measures they can be kept from the alimentary canals of our soldiers. Any treatment must consist in the elimination of the parasite and iron and bitter tonics for the secondary anemia afterwards. Male fern has been recommended but often fails. Thymol is used successfully in most cases. A brisk purge should always be given first and large saline enemata afterward in order to wash away the ova and larvæ in the rectum.

Smallpox flourishes everywhere in Cuba, and should the soldiers suffer from this the surgeons should be held responsible. Dr. Dabney thinks we can profit greatly from the German method of always making at least three insertions of the lymph in vaccinating, thereby increasing the chances of success. Vaccination, when perfectly successful, loses its effect in many persons in a few years and in some in a few months, so we should vaccinate the unvaccinated, revaccinate the vaccinated and re-revaccinate the revaccinated.

Yellow fever has been written on fully by various physicians, but the Sternberg bichloride treatment is especially recommended. This in connection with the daily saline enemata, abundance of cool water, fresh air and sunshine, and with strict attention to diet will give such good results as to rob the disease of its terror.

Beri-beri, both in the "wet" and "dry" varieties (paralytic and dropsical), is a very striking disease. Upon casual obser-

vation it might be mistaken for profound malarial toxemia, ankylostomiasis, alcoholic or arsenical poisoning. It is essentially an endemic multiple neuritis, characterized by great anemia, irregular, rapid, palpitating action of the heart, with marked dyspnea and cyanosis upon the slightest exertion. In the "wet" variety, edema, usually commencing on the dorsum of the foot, rapidly extends, filling the serous cavities, especially the pericardium. General anasarca soon supervenes. Various motor paralyses and atrophies occur, the wrist and ankle drop and atrophy of legs below the knee being most pronounced. At times the diaphragm itself is paralyzed. The ankle drop gives a peculiar gait that, once seen, can never be mistaken. Many authors still consider that certain articles of diet—notably rice and fish, especially tainted fish—serve as predisposing causes. The treatment demands first the relief of the burning, stinging and well-nigh unbearable pains. Drugs of the coal-tar series, cautiously used and in moderate doses, often afford marked relief. Opium may have to be resorted to. Constipation, a prominent symptom, will have to be met with proper cathartics, dropsies by the use of diuretics and diaphoretics. Strychnine, digitalis, camphor and stropanthus will be of utility in stimulating the heart, which should receive the most earnest attention. Galvanism in some instances affords excellent results. The prompt removal of the patient to the mountains, with fresh air, sunshine, wholesome food and fresh water, will prove the best treatment. Dr. Dabney thinks that our soldiers will not be likely to contract this disease unless they fall into Spanish prisons.

The malarias of the tropics may be divided into two great classes—the benign (calenturas) and the bad (the pernicious fevers). The first correspond to our ordinary tertian or quotidian type, are very mild or moderately severe, and always yield promptly to moderate doses of the sulphate of quinine administered per os, in solution or powder. If, however, these fevers are not treated promptly they are liable to change their type and become pernicious. The initial chill may be wanting but is liable to be severe, and the liver and spleen are usually enlarged. The chill usually occurs in the daytime, seldom earlier than 8 A. M. and not often after 4 P. M. The treatment should be vigorous, beginning with a good purge, mercurial preferred, and followed by seven grains and a half of sulphate of quinine every hour or two until decided cinchonism occurs; usually three doses will be sufficient. Five grains of acetanilid or phenacetin seem to enhance the value of the drug and add to the patient's comfort. Usually one dose of acetanilid is sufficient. The patient should be kept in bed, the bowels, skin and kidneys looked after, and moderate cinchonism kept up after the subsidence of the fever. On the third day seven grains and a half of quinine combined with five grains of Dover's powder or acetanilid should be given four hours before the chill time, and five grains of quinine every

hour afterward, until twenty-five to thirty grains have been given. Fifteen grains daily in three doses should be administered for four or five days and then some bitter tonic, or iron and arsenic, for from ten days to two weeks. In many cases less heroic treatment will succeed, but unfortunately it is hard to tell at the beginning of the disease which these may be.

The pernicious form is due to infection from the aestivo-autumnal or crescentric parasites which invade all organs of the body. This is always accompanied by coma. When these parasites invade the gastro-intestinal canal we have intestinal malaria masquerading under the guise of a vicious dysentery or choleraic diarrhea. When the meninges and brain swarm with them, menigitis, delusions, hemiplegia, etc., are often found. For the same reason we have the pneumonic, the gastralgic, and the hemoglobinuric types. Heroic doses of quinine should be administered by the hypodermic needle or by Bacelli's intravenous method.

Malaria is insidious, but daily examination of the tongues of soldiers will enable one to predict an attack and by prompt administration of quinine to abort it. By this daily examination over fifty per cent. of malarial paroxysms can be aborted, and by heroic administration of the drug fully ninety-five per cent. can be cured. Boil all water used, avoid unnecessary turning over of the soil, have sleeping apartments dry and beds fully two feet from the ground, and, above all things, do not let a soldier do guard duty at night on an empty stomach. A cup of hot coffee or grog should be served.

Dysentery, a disease which killed last year in Cuba twelve thousand soldiers and permanently invalided as many more, deserves a most careful consideration. It usually comes on under the form of a most innocent diarrhea. Suddenly large stools at short intervals supervene, odorless and of a grayish or yellowish color. The first stool may be accompanied by griping, but the reverse is usually the case. In some cases this condition lasts for days or weeks. The patient does not quit his work but contents himself with home remedies. In the great majority of cases, however, the patient presents himself with every evidence of marked debility. He complains of no particular pains, sleeps well, no elevation of temperature, tongue at times clear but usually covered with a thick muddy coat. The most careful examination fails to reveal a grave symptom, yet this disease gives the highest death-rate of all endemic tropical diseases. The first attack is usually recovered from, with good attention, though the recovery is always slow and invariably interrupted by many relapses, but should there be a second or third attack the case is sadly different. He may sink into a chronic and hopeless cachexia or a fever lit up and the end hastened. In the latter case the stools change, becoming frequent and livid in color, and violent cramps occur. The tongue becomes red and pointed, insomnia sets in, there

are vomitings and cold sweats, the pulse thready and scarcely perceptible—*c'est fini.*

Many of these cases would recover if taken in time, but soldiers hate the hospital and will often conceal the disease for days. Therefore, treat all cases, especially diarrhea, quickly, actively and continuously.

This disease often takes a gangrenous form. You will recognize it by the nose as well as eye. The terrible tenesmus of the first few hours is fearful to witness, yet some of the cases, strange as it may appear, recover. The liver is always involved and should be closely watched. Chills at intervals, especially at night, intermitting fever, pain in right hypochondrium or right shoulder nearly always denote abscess. An aspirating needle will confirm your diagnosis, which, when once made, leaves you no option but evacuation. A very free opening should be made. If the hepatitis is acute and not suppurative you must endeavor to cause the subsidence of the hyperemia by the administration of small doses of calomel, by dry cups and by a strict milk diet for a few days. A most valuable remedy is the nitro-hydrochloric baths night and morning. Take one ounce of the undiluted acid to one or two gallons of warm water. Place the feet in the bath and sponge the legs, inside of the thighs and the region of the liver for fifteen minutes. If the bath bites too much, diminish the quantity of acid. The treatment of acute amoebic dysentery will vary somewhat according to the case. Of all remedies, ipecac has given the best results and opium the worst. For ipecac to be effective it must be given in the first few days before destruction has occurred. Powdered ipecac rapidly loses its virtue in hot climates, so use only freshly powdered roots. A bolus containing from thirty to sixty grains is the usual dose. Thirty drops of laudanum should be administered half an hour before and a sinapism applied over the epigastrium. The patient should be kept in bed and but little fluid allowed while taking the ipecac. This dose should be repeated in from four to six hours for one or two days. One dose of from ten to fifteen grains of the sulphate of quinine should be given for four or five days in every case of dysentery unless the microscope fails to detect the plasmodium malariae.

When the character of the stools change, subnitrate of bismuth in from fifteen to thirty-grain doses seems to have a happy effect; also salol in five-grain doses. When the cases become subacute good results are obtained from a high enemata of nitrate of silver, thirty grains to the quart, and not less than a quart should he given, preferably two, and should not be repeated oftener than once a day.—*Atlantic Medical Weekly.*

XUM

TREATMENT OF LOCOMOTOR ATAXIA BY SYSTEMATIC EXERCISE.*

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The greatest advance which has been made in the treatment of organic nervous disease is that gained by the exercise treatment of locomotor ataxia. It is true, this is not the treatment of a disease, but of a symptom. But it is the treatment of that symptom—ataxia—which is the most prominent and most disabling, and its improvement or cure oft enables the bed-ridden, or those in enforced idleness, to again move among their fellows. The treatment to some extent also relieves other symptoms.

So many therapeutic measures of but little or no avail have been tried or vaunted in the treatment of locomotor ataxia that it is a great satisfaction to find a mode of treatment of such signal value.

This treatment consists essentially in this, that movements, which have become ataxic as the result of disease, are practiced systematically with great care until they are again done in a normal, or nearly normal, manner. This is re-education in co-ordinated movements. Originally all co-ordinated movements are acquired by long practice. The infant learning to walk, the child to write, the piano-player to play, are illustrations of this fact. The act, at first difficult, as it is practiced over and over again, becomes more and more easy, until it becomes automatic, or quasi-automatic.

In locomotor ataxia, as the result of loss of sensory† guidance, this acquired co-ordination of movement becomes impaired or lost, and it now needs greater effort to reacquire it than in the beginning. To attain this we must, firstly, call upon what sensory control still remains, and by our strenuous efforts we probably stir into action sensory fibres which have, hitherto, lain dormant. Secondly, we call in the assistance of vision. Its power to substitute, in part, lost sensory guidance we have always seen, in that the ataxic walks better by day than by night, and stands more firmly and uses his hands more skillfully with the eyes open than closed. Thirdly, the patient must pay the most careful attention that the desired movement is made with the greatest possible precision. By means of these three, the remaining, and perhaps to be increased, sensory control, vision, and painstaking effort, and at the same time systematic practice of the given exercises, co-ordination can be reacquired, and ataxia proximately or altogether cured.

The value of this treatment in locomotor ataxia rests upon two facts: Firstly, as any given ataxic movement can be remedied by re-education in co-ordination of given muscles, so

* Bettman, Journal of the American Medical Association, January 2, 1897.
†Read by title before the American Medical Association, June 9, 1898.

all the ataxia manifested may be removed if the proper exercises are given; and, secondly, that locomotor ataxia is usually slow in its progress, often, apparently, stationary.

We owe this treatment to Frenkel, of Heiden, Switzerland. A patient of his at the first examination showed a good deal of ataxia of the hands in trying to bring the index fingers together, while at the second examination he succeeded in making this test perfectly. The patient stated, in explanation of the great improvement, that he had been constantly practicing the exercise since his first visit. It was after this observation that the thought of systematic treatment of this kind occurred to Frenkel, and he soon demonstrated by actual experience the value of such treatment. Frenkel's first publication was in 1889. Since then he has had abundant opportunity for the application and amplification of his method. The fame of his treatment, and his brilliant results, caused ataxics to flock to his institution in no small numbers, so that his experience and opportunities for observation have been very large. He learned thereby that the treatment was applicable not only to light cases, as he had at first supposed, but to very bad cases also, and that the improvement and cure were of indefinite duration. But he learned also that the treatment was not an easy, but a very difficult one, requiring for its success the most careful study of its mode of application to the individual case. So great has been his success that he believes that failures, unless there be contra-indications to the treatment, are always due to faulty methods.

Because this treatment is not nearly so well known as its deserts merit, and, at the same time, should belong to the general practitioner, and because my personal experience has taught me how easily failures may result without full knowledge of the rules governing the application of this method, I have deemed the subject well worthy to be brought before the American Medical Association.

To get a clearer idea what can be done let us first consider the limitations of treatment.

As contra-indications of treatment may be mentioned:

(*a*) Fragility of the bones.

(*b*) Joint disease.

(*c*) Blindness. Vision is essential to the treatment.

(*d*) Mental disease. Nothing can be done without the intelligent co-operation of the patient.

(*e*) A meningeal type of disease, or that with strong cord or root irritation symptoms. Here exercise is likely to increase the pain.

(*f*) Acute, or rapidly progressive disease. Rest, not exercise, is here indicated.

(*g*) Spasticity or muscular atrophy, especially if of high degree.

(*h*) Serious organic disease, especially heart disease. If the

conditions still permit the treatment, it should be instituted with great care.

Other conditions require preparation for the treatment. In case of anemia, or bad nutrition, or other impairment of health, the general health should be restored before beginning the exercise treatment. Frenkel has called special attention to a condition of the muscles in locomotor ataxia which he terms hypotonus, a loss of muscular tone, making the joints less firm, and excessive movement possible. For instance, a normal individual lying on his back can usually lift his leg but to a right angle, while with the hypotonus spoken of he can bring the leg much nearer the trunk. This hypotonus, causing relaxed muscles and tendons and weakened joints, must be relieved by electricity, massage, bandages and the like, before much benefit can be expected from the exercise treatment.

The favorable cases for this treatment are those in good general health, intelligent and hopeful, where the disease is advancing very slowly, or is, practically, at a stand-still. The lighter forms are the more easily and quickly improved, but bad cases, though the treatment is necessarily of longer duration, often give brilliant results.

Let us for a moment consider the different forms or degrees of ataxia which may be presented.

The lightest, and usually first to appear, is static ataxia. The patient sways when standing with closed eyes, is unsteady if he stands on one foot, can not stand on tip toes, etc. A step further and locomotion becomes difficult; the gait is ataxic, first manifested in running, dancing, sudden turning and the like. A still higher degree of ataxia is that of the separate limbs. Even in a position of rest the ataxia of the leg may be shown in the unsteady way the patient touches the knee of one leg with the heel of the other foot, or like movements; and the same may be seen in the movements of the hands, if the upper extremities be affected. Still higher degrees of ataxia are those where the patient can hardly lift himself from the chair, needs support on one or both sides in walking, or where any movement becomes difficult or almost impossible. The bed-ridden, so-called paralytic, cases are often only cases of extreme loss of co-ordinating power, proven by their improvement under this method of treatment.

For these various degrees and location of ataxia differences in the method of treatment are called for, as to the choice of exercises, frequency and duration of treatment, etc.

I give herewith a series of exercises described by Hirschberg,‡ who supervised their execution, under Frenkel's instruction, at the Salpetriere.

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‡The theory of sensory origin of ataxia, though not clearly worked out, nor universally accepted, is constantly gaining in strength.

EXERCISES FOR THE TRUNK AND LOWER EXTREMITIES.

Exercises in Bed.—The patient is laid on a bed or sofa, the legs bare, the head raised so he can see his legs; then he performs the following exercises :

1. Flexion, extension, abduction and adduction of one foot, then the other, then both together.
2. Movement of rotation at ankle.
3. Flexion of knee.
4. Flex leg on abdomen, with knee bent.
5. Abduction and adduction of thigh, knee bent, sole of foot to rest on bed, pelvia immobile ; to be done in four stages—abduction, return to median line ; adduction, return to median line.
6. Raise the leg as a whole, without making zigzag movements ; then practice abduction and adduction and rotation with the leg at the hip-joint.
7. The legs are straightened out and brought together ; the patient is then to raise himself in bed without use of hands, and without moving his legs.

Standing Exercises.—For these exercises one should have a large, well-lit room with little furniture, with a floor which has not been waxed or covered with a carpet. The patient ought to be lightly clothed. Women should wear bloomers. At the beginning of treatment it is very important that patients should be able to see their legs.

Exercises in Static Equilibrium.—The patient is standing, the doctor at his side. If the patient can not walk, he is to be supported by the aid of Frenkel's belt. If he can hold himself erect by the aid of a cane, this is permitted him at the outset.

1. Stand immobile, the feet slightly separated, hands resting at the side. Stand in this position one or two minutes.
2. Same exercise, feet close together.
3. With feet a little apart, do exercises with the arms ; raise them, lower them, extend them, etc.
4. Same exercises with feet close together.
5. Bend the body in different directions, moving head also.
6. Same exercises with feet together.
7. Bend forward and straighten up slowly.
8. Same with feet together.
9. Bend body forward, and touch toes with tips of fingers.
10. Same with feet together.
11. Stand on toes.
12. Same with feet together.
13. Stand with knees bent.
14. Same with feet together.
15. While standing with knees bent, exercise arms.
16. Stand on one leg.
17. While standing on one leg, bend the knee.

XUM

EXERCISES OF LOCOMOTION.

1. While erect extend foot slowly length of one step; bring back foot into place with one movement; repeat this, putting foot backward. Do this sideways. For this exercise it is well to mark on the floor with a piece of chalk just where the foot shall be placed. Perform these exercises with both feet.
2. Put one foot in front of the other on the same line, and stand quietly.
3. Walk forward twenty steps, putting the feet down gently, and touching the floor with the entire foot. The patient should count his steps aloud.
4. Walk along a straight line—a broad stripe painted on the floor.
5. Walk backwards.
6. Walk sideways.
7. Walk with long stretches.
8. Walk with knees bent.
9. Walk on toes.
10. Walk, at command, with sudden stop or change of direction.
11. Walk with obstacles; pieces of wood are placed on the floor at equal distances from one another, and the patient should walk between them without displacing them.
12. Get up from chair without use of hands.
13. Sit down slowly and carefully.
14. Exercise one's self in going up and down stairs without holding on to the bannister.

For ataxia of the upper extremities very many simple or complex movements may be resorted to, simple movements of fingers, hands and arms, the ordinary test movements by which we commonly test for ataxia, etc. As skilled movements of the hands mean much greater nicety of action than that required of the legs and trunk, Frenkel has devised a number of apparatus for such exercises. For instance, balls of different sizes are suspended by strings. The balls are set in motion and the patient is requested to grasp a given one between finger and thumb. Again, a board, containing a number of holes in which are fitted violin keys or stops, is placed before the patient. He is ordered to remove and replace certain specified numbered stops. He holds the hand behind the head and slowly or rapidly executes the desired movement.*

Dana (*The Post-Graduate*) gives the following exercises for the hands and arms:

1. Sit in front of a table, place the hand upon it, then elevate each finger as far as possible. Then, raising the hand slightly, extend and then flex each finger and thumb as far as possible. Do this first with the right and then with the left. Repeat once.
2. With the hand extended on the table abduct the thumb,

and then each finger separately, as far as possible. Repeat three times.

3. Touch with the end of the thumb each finger-tip separately and exactly. Then touch the middle of each phalanx of each of the four fingers with the tip of the thumb. Repeat three times.

4. Place the hand in the position of piano-playing, and elevate the thumb and fingers in succession, bringing them down again, as in striking the notes of the piano. Do this twenty times with the right hand, and same with the left.

5. Sit at table with a large sheet of paper and pencil, make four dots in the four corners of the paper and one in the center. Draw lines from corner dots to center dot with right hand; same with left.

6. Draw another set of lines, parallel to the first, with the right hand; same with left.

7. Throw ten pennies upon the paper, pick them up and place them in a single pile with the right hand; then with the left. Repeat twice.

8. Spread the pennies about on the table, touch each one slowly and exactly with the forefinger of right hand; then with forefinger of left.

9. Place ordinary solitaire board on the table, with the marbles in the grooves around the holes. Put the marbles in their places with right hand; same with left hand. Patient may, with advantage, practice the game for the purpose of steadying his hand.

10. Take ordinary fox-and-geese board, with holes and pegs, and, beginning at one corner, place the pegs in the holes, one after another, using first the right hand, then the left.

The physician should select from this long array of exercises those most appropriate for his case, or he may find others still more suitable. The idea is, an exercise at first performed in an ataxic manner is done over and over again until it is executed in a normal, or nearly normal, manner. Usually the exercises are done for a half-hour or an hour once or twice a day, with rest pauses between the different acts. In this, too, one must individualize. Bad, bed-ridden cases should at first not attempt much, perhaps exercise a very little every hour.

Frenkel has his patients exercise in the morning in bed. These bed exercises he terms the *a*, *b*, *c* of the co-ordinating act of the lower extremities, and he permits cases with light degrees of ataxia to omit them altogether. Then in the course of the day his patient practices in sitting, standing, walking, promenading, climbing steps, etc., according to the character of the case.

Frenkel emphasizes very strongly the danger from overfatigue in these cases. It must be remembered, if these exercises are properly done, the patient making the most strenuous efforts to do them with exact precision, they tax him both

mentally and physically. At the same time, the sense of fatigue is usually more or less blunted in ataxics, so that the first intimation of fatigue or over-fatigue may be the increased ataxia which the undue exertion has caused.

For this reason one must constantly guard his patient from over-fatigue. The exercises should not be too prolonged nor such as are too taxing for him. Frenkel is accustomed to have the physician at the side of the patient when he is exercising in standing and walking, so as to save him from the added effort or strain that would accrue if he were constantly fearing or trying to prevent himself from falling. Then the patient should not waste his time and strength on unnecessary exercises—those that he already does easily and well—repeated simple muscular contractions not related to his ataxia, etc. It must not be forgotten that the exercises are not for the purpose of increasing muscle strength, but to remove ataxia.

Frenkel denounces severely the use of ordinary gymnastics in these cases. He even warns those in the pre-ataxia stage of tabes against over-fatigue, and advises no excessive walking, no bicycling, no horseback riding, etc. In such cases Frenkel is also accustomed to have massage—muscle-kneading, not skin-rubbing—applied to all of his patients, for the purpose of improving the muscle tone, and, possibly, lessening the effects of fatigue.

The necessary duration of treatment varies, according to the severity of the case, from a month or more for the light cases, to six months or a year for the bad ones. But the exercises must be continued permanently to maintain the improvement. Frenkel has cases under observation in which the improvement or apparent cure has already been of several years' duration. In case of exacerbation of the disease the improvement in the ataxia gained by the treatment is temporarily lost, but it is easily regained by the same treatment after the relapse is over.

The improvement depends much on the temperament and intelligence of the patient. The nervous, restless, those with little power of attention, and weak will power, often make little progress. Occasionally improvement is very slow without any known cause, though, as already mentioned, Frenkel thinks that failure, when there is no contra-indication, is always due to faulty methods. He says the latter especially lead to disappointment in those quite common cases where a degree of improvement is easily and quickly attained, while further progress is always slow, and only to be obtained when the method of treatment is thoroughly understood.

This treatment, as already stated, is that of a symptom, and has no effect whatever upon the structural disease. But while it is intended only for the relief of ataxia, other symptoms have sometimes been benefited, notably the lancinating pains and crises of tabes. The spinal myosis and Westphal symptom—lost knee jerks—are unaffected by the treatment.

Frenkel speaks of the ofttimes necessity of institutional treatment, in order to obtain benefit from the treatment, or at least the largest possible benefit. There is no doubt that one who has had Frenkel's large experience in this treatment is best prepared to apply it to the individual case, nor that a patient in Frenkel's institution, who sees the brilliant results there obtained, would be so buoyed up with hope and the expectation of a cure as to put new life into him, and a vigor into his efforts, not otherwise attainable. But not every case of locomotor ataxia can go to Heiden or Paris, and there is no reason why the general practitioner, if he studies the method of treatment, and studies his patient, should not gain very much from the treatment in suitable cases. But unless he carefully supervises the treatment he can expect nothing but failure.

I shall attempt to formulate what has been said in this paper in the following rules:

1. All cases should be benefited by the exercise treatment, many to the degree of apparent recovery, unless there be special contra-indications to the treatment. Failures, under these circumstances, usually mean faulty methods, or that the treatment has not been persevered in sufficiently long.

2. Contra-indications are: Loss of vision, mental impairment, bone and joint disease, spasticity and muscular atrophy, the presence of strong irritation symptoms, rapid progress of the disease, a state of great exhaustibility, and serious organic disease.

3. In cases of anemia, poor nutrition and lax joints, these general and local conditions should be remedied before the treatment is instituted.

4. The conditions most favorable for the treatment are, a stationary, or almost stationary, state of the disease; good general health, intelligence, hopefulness, and perseverance.

5. Light cases are more amenable to a (practical) cure, but bad, even bed-ridden, cases often give brilliant results.

6. The necessary duration of treatment varies from a month or more for the lightest, to six months or a year for bad cases, but the exercises must be kept up in order to insure the continuance of the improvement.

7. Success of treatment depends upon thorough knowledge of the method. This is especially true of bad cases.

8. Exercises should be chosen most suitable to remedy the existing ataxia, and every effort should be made to do them with greatest precision.

9. The sense of fatigue is often blunted in ataxics, while over-fatigue injures them. The patient should, therefore, be guarded against too taxing or too prolonged exercises, or other unnecessary efforts.

10. To obtain most benefit from the treatment the constant supervision of the physician, at least in its early periods, is absolutely necessary.—*Cincinnati Lancet-Clinic.*

XUM

WAND OF THE ALCHEMIST.—WHAT THE MAN OF SCIENCE MAY SECURE FROM COAL TAR.

[From the popular English Magazine, *The Humanitarian.*]

The wand of the alchemist becomes more wondrous in its transforming powers every day. No tale in the Arabian Nights, no story of the wondrous treasures taken by mystic power from magic nutshells surpasses what science is doing to-day.

Science, the wizard of the century, touches with his fairy wand the black, viscid coal tar from the gas retorts and coal becomes not ony a source of light and heat, but an arsenal of colors, a buffet of dainty tastes, a medicine chest for suffering humanity, a store-house of new foods and exquisite perfumes, a source of powerful explosive for war and so many other miraculous powers that the telling challenges credence. From the 140 pounds of gas tar in a ton of coal, science today makes aniline dyes, numbering over 2,000 distinct shades, many of them being of exquisite delicacy, so that vegetable dyes are almost displaced.

Of medicines, antiseptic, hypnotic and fever-allaying preparations, it furnishes antipyrine, *ammonol*, antifebrin, asparol, carbolic acid, diuretin, dulcin, euphorin, exalgine, hypnol, malarin, napthalin, phenatecin, phenol, salol, sulfonal, trional hylene and a host of others.

It furnishes perfumes—queen of the meadows, cinnamon, bitter almonds, camphor, wintergreen and thymol. It has given to the world bellite and picrite, two powerful explosives. It supplies flavoring extracts that duplicate the taste of currants, raspberries, pepper, vanilla, etc. It is the housekeeper's ally, with benzine and naphtha, the insecticides. It supplies the farmer with ammonial fertilizers. It has given to the photographer his two developers, hydroquinone and eikonogen. It makes the anatomist its debtor for a most wonderful stain for tissues. It contains the substance which tints the photographer's lens. It yields paraffin, creosote, pitch; material for artificial paving; saccharin, a substance 300 times sweeter than sugar, and saccharin-amide, still sweeter; lampblack, material for red ink, lubricating oils, varnish, resin, almost our entire supply of ammonia, and hundreds of other things—all these science brings forth from this coal tar.

By means of its products—this waste that surpassed its uselessness only by its offensiveness—we can make preserves without either fruit or sugar, perfumes without flowers, and coloring matter without animal or vegetable aid of any description.

FORECASTING SEX.

Professor Schenck, either through his misfortune or fault, has much to answer for. By the publication to the world of his theory that he is able to produce at will a child of either sex without giving proof of the efficacy of his methods, he has incited other members of the medical profession, induced in it, is to be feared, by the prospect of self-advertisement and by the hope of gain, to propound propositions of a like nature. To give, however, Professor Schenck his due, he is reported to state that the publication of his asserted discovery is premature and was not made by his wish. Until, therefore, the sealed packet which he has handed to the Vienna Imperial Academy of Science is read in full, it will be best to reserve judgment. A Boston physician now claims that he has known how to produce boys at will for the past twenty-five years, but that he had refused to publish it for fear of the great harm it would do. Another American physician, a Dr. Wilbur Watson, of Danbury, Conn., has no such scruples, and boldly proclaims that he is able to control the sex of children. Unlike Professor Schenck, who it seems is in the main in accord with the generally received opinion of the influence of nutrition in the determination of sex, Dr. Watson holds that nutrition has nothing whatever to do with the matter, but refrains from making public his important secret. Unless he has substantial and sufficient reasons for withholding his knowledge, his action in so doing is ill-advised. If, as he asserts, he is absolutely convinced of his power to control sex, it is hard to understand why he should not be willing to reveal his discovery, and if he has not the courage of his convictions, he had no right to allow himself to be advertised as possessing the knowledge. In regard to the determination of sex, it is estimated that at the beginnlng of this century there were about 300 theories, and doubtless since that time the number has largely increased. Geddes and Thomson (in "Evolution of Sex") say that "throughout nature the influence of food is undoubtedly one of the most important environmental factors." According to Thury, an ovum fertilized soon after liberation tends to produce a female, while an older ovum will rather develop into a male. As a practical breeder, Thury claimed to determine sex of cattle upon this principle. Hoacker and Sadler were in favor of the generalization that when the male parent is the older the offspring are preponderatingly male, while if the parents be of the same age, or if the male parent be the younger, female offspring appear in increasing majority. The experiments of Henson (which supplement and extend those of Thury) show that a very favorable condition of both ovum and sperum will tend to the formation of a female. To again quote Thomson and Geddes, "The best known and probably still most influential theory is that of comparative vigor statistics, which seem to show that after an epidemic

or a war the male births are in a greater majority than is usually the case, and 'vice versa.'" The influence of maternal nutrition as a most potent factor has been shown by repeated biologic experiments. Scientists, until most convincing proofs have been given, will remain sceptical as to the power of any person to control sex, and will regard with doubt assertions to that effect.—*Pediatics.*

THE NOURISHING PART OF MEAT.

The only nutrient portion of meat is the solid part. Hence beef tea, although stimulating, has no food value. The only portion of the flesh of an animal which is possessed of real nutritive value is that part which has been alive and active before death. These living structures are not soluble; if they were, an animal which happened to fall into the water would dissolve like a lump of sugar. During life there is a small portion of nutritive material in solution in circulation in the body. After death, this small amount of soluble food material is rapidly converted into excrementitious matter; and as the skin, kidneys, and lungs cease their action, these poisonous substances rapidly accumulate within the body, the molecular or cell life of the body continuing some hours after death.

It thus appears that beef tea, as a French physician recently remarked, is a veritable solution of poisons. The only portion of the flesh which has any nutritive value is that which is thrown away in making the beef tea or extract. The popular faith in beef tea as a concentrated nourishment has, however, become so thoroughly fixed and rooted that some time will be required to rid the world of this erroneous idea; but it is highly important that information upon the subject should be disseminated as rapidly and as widely as possible, for there is no doubt that many lives are aunually sacrificed by faith in the superior nutriment value of meat juices.—*Public Health Journal.*

"HUSA" AS A REMEDY FOR THE OPIUM HABIT.

The February number of the *Texas Courier-Record of Medicine* opens with a remarkable account by Dr. W. W. Winthrop, of Fort Worth, of his experience with an unclassified plant which he thinks may be indigenous to the everglades of Florida, one known by the name of "husa." He first observed its use in connection with that of the arrow-leaved violet, *Viola hastata*, a plant that is found growing from Canada to Florida and westward to Arkansas.

Dr. Winthrop says that when he was living in Florida he often saw strange things done with snakes. He mentions a negro who was visiting the towns on the Indian River, giving exhibitions with two immense, terrible-looking rattlesnakes. He would irritate the snakes and allow them to bite him in any part of his person indicated by anybody who was willing to pay twenty-five cents to "see the show." Dr. Winthrop declares that the snakes had their fangs, which must have been "about three inches long." Furthermore, the negro would allow himself to be bitten by any snake that a person might catch and bring to him. Dr. Winthrop saw him bitten several times by moccasins that had just been caught. After each bite the negro would take a mouthful of some herbs which he carried in a little bag, maintaining that the herbs counteracted the venom. "He had none of the herbs for sale, the 'whole show' consisting of seeing the snakes bite." By the judicious use of money and whisky Dr. Winthrop succeeded in worming out of the negro this information: "Boss, de is viellies an' huser, an' I gets 'em from de Semmes in de dales."

"Semmes in de dales" evidently meant the Seminole Indians of the everglades, and to them the author betook himself for information. "But," he says, "though I used every means I could think of to get information about their remedies for snake-bite, I could elicit nothing from the Indians, men or women; neither the young men and boys, with whom I hunted day and night, could I induce to speak, though every one of them knew what I wanted. I was a stranger to them and that was enough. These Indians will not give a stranger information about anything; they must know who and what he is first." Just as he was about to give up disheartened, the author fell in with a Scotch physician who was botanizing in the everglades. This gentleman interpreted "viellies" as meaning "the spear-eared violet, *Viola sagitata*," and "huser" as denoting an unclassified plant variously called "husa," "hoosa," "yousa," and "yusee" in Florida.

Dr. Winthrop states that *Viola sagitata* has long been known as possessing properties antidotal to snake poison. He gives the following account of "husa": "It is an unclassified plant of a dirty whitish-green color, about two or three inches long. It has at its summit a ball-like white formation. Where the flower should be, this is hard, slightly lobulated, and is to all

appearances like a small cauliflower. It grows in clumps in moist, shady places, particularly on the hammocks at the roots of the cabbage palms. It is of a low order of plants, above the mosses; it is, I believe, a cryptogam. It is possibly indigenous to the everglades, for I hunted for it in vain in many large hammocks in Florida. From Dr. McGregor I learned that it is a perfect antidote for all snake-bites, stings of insects, etc.; also an antidote for narcotic poisons. It is the most diffusible stimulant known, acting immediately."

Dr. Winthrop states that he has subjected the plant to various tests, and has found it an infallible cure for the opium habit. He says: "It takes the place of opium or morphine. Supporting the patient fully, it is sedative but not narcotic. It produces slight elation, but no somnolent effect. To use the illustration of one physician who cured himself of the opium habit with it, a habit of twenty-three years' standing," one who was using forty grains of morphine sulphate daily, "'It makes a man feel just as easy and comfortable as one feels after a satisfying meal.' As soon as I learned its properties I sent some of the husa plant to several doctors I knew who used morphine; they one and all pronounced it 'a perfect success.' I have never known of a failure when the patient wanted to be cured. In the hand of a careful physician, this remedy will be found efficient in the worst cases of drug addiction."

It is to be hoped that the botanists will give us some information about "husa," and that its medicinal virtues may be inquired into systematically.—*New York Medical Journal.*

CHRONIC GASTRITIS.

BY LOUIS A. KENGLA, M.D., SAN FRANCISCO, CAL.

A report of a very severe case of gastritis was freely copied in medical journals during the year 1896, in which glycozone was successfully used.

At that time, J. W., aged thirty-eight, a blacksmith, came under my care. His illness began in 1894 with the usual symptoms of gastritis. In January, 1895, he had become so much worse that he placed himself in the hands of one of our best physicians, under whose care he continued until November of the same year, when I was consulted.

After hearing his history and the treatment given, I urged him to return to his physician, insisting that nothing more could be done. My protest was in vain.

Examination revealed an emaciated, thin and badly nourished body; his eye, skin and color, fair though pale; his temperature normal; the bowels inclined to constipation with occasional diarrhea with white, pasty, offensive stools; the lungs, heart and kidneys healthy; the liver a trifle small.

There was no painful point and no evidence of enlargement, tumor or ulcer. He was so thin that the abdomen could be most thoroughly examined. His tongue was heavily furred, red at the tip, indented at the edges, and the papillæ red and prominent.

He complained of being unable to take either solid or liquid food even in small quantities without causing heaviness, weight, oppression, pyrosis, eructation of gases, nausea and finally headache and vomiting.

Since 1894 these symptoms had increased in severity; the nausea never ceased, and this whole array of complaints would gradually accumulate in force and energy, overwhelming his system with an attack of headache and intermittent vomiting that would last from three to five days.

In 1895, these storms growing worse, rendered his life almost unbearable. I had been attending him about a week when one of these attacks occurred. He had been vomiting one day before I saw him. The scene was truly pitiable. I found my poor emaciated patient in a small darkened room scarcely able to raise his head, gagging and straining constantly, bringing up finally by the greatest of efforts, a teaspoonful of white glary mucous; his head bound tightly or wrapped in ice cloths; his eyes congested; his cheeks hollow; his skin sallow and pale; his face bespeaking the intense agony he suffered, begging and pleading to those around him for relief from the horrible nausea and retching.

I remained with him an hour, and during that time he was not free for five minutes from efforts at vomiting. His sleepless, aching brain seemed racked to distraction. He would gag, vomit, and fall back exhausted.

This continued three days, gradually lessening. Sleep came

only through exhaustion. Every particle of food (liquid or solid) was promptly vomited. During these attacks the temperature was increased from 99 to 103 degrees.

These attacks were always of a similar character, and from November 1, 1895, to July 3, 1896, they occurred every ten days or two weeks.

The physician who had treated him had used drugs, diets, and lavage faithfully and persistently, so that at the outset, I was completely handicapped.

I began with the remedies which had given relief in similar cases, and in turn used acids, alkalies, alteratives, pepsin, digestants, purgatives, tonics, bitters, sedatives, diets, etc., either singly or in combination, until I had exhausted all the resources at my command.

The only perceptible relief came from the use of small doses of diluted hydrochlorid acid between the attacks and a solution of cocaine and morphine during the paroxysm.

About July 3, 1896, I read the article referred to above, and in desperation and despair of ever relieving him, I ordered glycozone one-half, then one drachm, well diluted, twenty minutes before meal time.

In a few days he said he felt better; within a week he repeated the assertion. To the utter astonishment of myself and his friends, one, two, four and even six weeks passed, without a reoccurrence of his severe symptoms.

About August 20th, he was so much improved, that to hurry matters, I concluded to try lavage again. This was done at 5 P. M, and at 10 that night he was in the throes of an attact, which lasted two days.

He then resumed his glycozone and continued to improve till October 15th, when, on account of inactivity of the bowels and costiveness, he was given two grains of calomel, which brought on a slight headache and considerable nausea.

He had already been taking more food, but from this time it was increased in quantity and character, eating three fairly good meals a day, and enjoying them.

After beginning the use of glycozone, the acid was continued a few weeks, after meals, then left off entirely. No other medicine was used, except occasionally a pill of aloin, belladonna, strychnia, cascara, when bowels were sluggish.

To him glycozone proved the greatest boon, and to me, the relief given was simply wonderful.

It is useless to add, that I have used the remedy in many cases since, and have met with excellent and even astonishing results.

THE EXERCISE TREATMENT OF LOCOMOTOR ATAXIA.

The treatment of locomotor ataxia by exercises calculated to teach the patient again the co-ordination of muscles that has been lost by degeneration of the lower sensory neurons has recently attracted considerable attention, and has won for itself the support of many noted neurologists, among whom may be mentioned Leyden, Jolly, Mendel, Eulenberg, Oppenheim, Gerhardt, and Remak. This method of treatment was first introduced by Fraenkel, and has for its prime object the conversion of the simplest ataxic movement into a normal one. In a communication to the *Deutsche medicinische Wochenschrift* for December 17, 1897, Fraenkel describes the various exercises for the hands, arms, body and legs. For exercising the upper extremities the following directions are given: Sit in front of a table, place the hand upon it, then elevate each finger as far as possible; raising the hand slightly, extend, and then flex each finger and thumb as far as possible; do this with the right hand and then with the left hand. Touch with the end of the thumb each finger-tip separately and accurately; then touch the middle of each phalanx with the tip of the thumb. Sit at the table with a large sheet of paper and a pencil; make a dot at each corner of the paper and one in the center, and draw lines from the corner dots to the center dot, first with the right and then with the left hand. Put ten coins on the paper, pick them up and place them in a single pile, first with the right and then with the left hand. For the body and legs sample exercises: Sit in a chair, rise slowly to erect position without help of cane or arms of chair; then sit down slowly; stand with cane, feet together; advance left foot and return it; then the same with right. Walk slowly ten steps forward and five back with help of cane. Stand without cane, but with the feet a little apart and the hands on the hips; in this position stoop down by flexing the knees, and rise slowly. Stand without cane with the feet separated; raise the hands from sides above the head; carry them downward and foward, and try to touch the toes. Walk along a fixed line on the floor by help of a cane, placing each foot in turn on the line; then repeat without using the cane. Most of these exercises should be repeated several times, and the movements should be made with the eyes both open and closed.

Owing to disturbance of the sensory paths tabetics have lost the sense of fatigue, so there is some danger in overdoing the treatment. Two things are therefore insisted upon: first, every movement must be done with the greatest possible exactitude, since it is not simply physical exercise that is aimed at so much as training in co-ordination; and, second, the *seance* should not last more than eight or ten minutes, and no more than two should be allowed a day.

In the preataxic stage the exercise treatment has in a number of reported cases prevented the development of inco-ordi-

nation. Even in advanced sclerosis remarkable results may be obtained; in a number of instances patients, bedridden for three, four, and five years, have been taught to walk without assistance. The improvement may last for years, if the disease is stationary or only slowly progressive. According to Fraenkel the treatment is absolutely contraindicated in cases of acute or subacute ataxia.

Kalinin (*Vratch*, No. 7, 1897), who has used Fraenkel's method in five cases of locomotor ataxia, draws the following conclusions: By this treatment the loss of motion can be restored to a satisfactory degree, the gait and locomotion gradually becoming safer and firmer. The sense of locality and that of movement, and the skin sensibility, are but little improved. Romberg's symptom very soon became less pronounced. The duration of treatment should entirely depend upon the prognosis and the degree of the motor disturbances present, but in any case it should not be less than a month. No ill effects were observed when the treatment was interrupted at short intervals of two or three weeks, but not longer.

Raichline, who has treated twelve cases with complete success in eight, concludes that the conditions of success are a long, as opposed to a short, course of treatment, a well-nourished condition, good sight necessary for watching the movements accurately, a certain amount of energy and intelligence, not complete loss of sensibility, and the absence of arthropathies.—*University Medical Magazine.*

EXCESSIVE USE OF SALT.

The use of salt as a condiment is so general and so universally believed in as necessary that we rarely hear a word against its excessive use, but there is a multitude of persons who eat far too much salt—eat in on everything, on meat, fish, potatoes, melons, in butter, on tomatoes, turnips and squashes, in bread and on a host of foods too numerous to mention. To so great an extent is it used that no food is relished which has not a salty taste, and this hides more or less the real taste, which is often very delicate. Now, the amount of salt required in the system is comparatively small, and if the diet has been rightly compounded very little is necessary. What are some of the evils of the excessive use of salt? The effect is to paralyze the nerves of taste, or pervert them so they can not enjoy a thing which has not a salty flavor, and in addition there is a direct tax on both the skin and kidneys in removing it from the blood. Whether the skin is harmed by the tax we do not know. Possibly it is not greatly injured, yet we know that few people possess a healthy skin; but it is now pretty well settled that an excessive use of salt does overtax the kidneys in its removal, and that cases of derangement and disease of these organs is due to this use. We advise our readers and others to look into this matter and to try and diminish the excessive use of this condiment. We believe they will be better for it.—*The Clinic.*

Society Reports.

PROGRAM OF THE ALUMNI ASSOCIATION OF THE SOUTHERN MEDICAL COLLEGE.

JULY 20, 21, 22, 1898.

FIRST DAY—WEDNESDAY, JULY 20, 3 TO 5 P. M.

Opening with Prayer—Rev. A. R. Holderby, M.D , Chaplain.

Address of Welcome.

Response by John R. Shannon, A.M., M.D., of Cabaniss, Ga., Class of '93.

President's Address—"The Southern Medical College and Its History"—J M cF. Gaston, Jr., of Atlanta, A.M., M.D., Class of '93.

"Suggestions on the Treatment of Some Functional Disturbances of the Gastro-Intestinal Tract in Children"—J. MacDiarmid, Dundee, Ga., Class of '91. Discussion to be opened by Dr. W. B. Parks, of Atlanta.

"Inevitable Abortion and Its Complications"—J. H. Green, M.D., Decatur, Ga. Discussion opened by Dr. J. MacDiarmid, of Dundee.

"Yellow Fever" (by request)—John Cooke Olmsted, M.D., Professor of Physiology, Southern Medical College.

"Therapeutic Suggestion"—Willis B. Parks, M.D., Atlanta, Ga , Class of '81.

"The Present Status of Massage in Medicine"—C. E. J. Smith, M.D., Atlanta, Ga., Class of '97.

SECOND DAY—THURSDAY, JULY 21, 3 TO 5 P. M.

"The Business Side of the Doctor"—C. A. Smith, M.D., Class of '98.

"God in Medical Science"—Rev. A. R. Holderby, M.D., Chaplain, Class of '94.

"The Surgical Aspect of Appendicitis" (by request)—J. B. S. Holmes, M.D., ex-Adjunct Professor of Obstetrics and Diseases of Women, Southern Medical College.

"Cases and Specimens of Operations for Appendicitis, Dermoid Cyst of the Bladder," etc.—W. A Crow, M.D , Professor of Obstetrics in the Southern Medical College.

"Scarlet Fever"—J. M. Welch, Truett, Ala., Class of '92.

Subject to be announced—John R. Shannon, A.M., M.D., Cabaniss, Ga., Class of '93.

THIRD DAY—FRIDAY, JULY 22, 3 TO 4:30 P. M.

12:00 M.—BARBECUE AT BOLTON.

Address—"The Absence of Feces in Suckling Cats"—B. B. Bell, M.D., Swift, Ga., Class of '88.

"The Application of Electricity in Medicine and Surgery"—

XUM

J. McF. Gaston, Jr., A.M., M.D., Atlanta, Ga., Class of '93.

"Malaria in a Whole Family"—C. Pelham Ward, M.D., Atlanta, Ga., Class of '94.

"Uric Acid as an Etiological Factor"—E. Van Goidtsnoven, M.D., Atlanta, Ga., Class of '83. Discussion to be opened by Dr. J C. Olmsted.

"Labial Support"—J. D. Bradley, M.D., Kingston, Ga., Class of '88.

Report of Cases.

OFFICERS.

President—J. McF. Gaston, Jr., A.M., M.D., Class of '93, Atlanta. Ga.

Vice-President—George Brown, M.D., Class of '92, Atlanta, Ga.

Secretary and Treasurer—John R. Shannon, A.M., M.D., Class of 93, Cabaniss, Ga.

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J. MacDiarmid, M.D., Class of '91, Dundee, Ga., Chairman.
C. A. Smith, M.D., Class of '98, Atlanta, Ga., Secretary.
John R. Shannon, A.M., M.D., Class of '93, Cabaniss, Ga.

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W. B. Parks, M.D., Class of '81, Atlanta, Ga., Chairman.
C. A. Smith, M.D., Class of '98, Atlanta, Ga.
Rev. A. R. Holderby, M.D., Class of '94, Atlanta, Ga.
E. Van Goidtsnoven, Class of '83, Atlanta, Ga.
C. Pelham Ward, M.D., Class of '94, Atlanta, Ga.

SULPHONAL MANUFACTURE.

Those who follow our market-reports will have noticed that there has been great difficulty recently in obtaining sulphonal, and probably few are aware of the reasons for that. It is really because the manufacture of the drug is one of the greatest nuisances on the face of the earth. The odor of mercaptol, from which it is prepared, is equal to that of a million cats, and a whiff of the small cats' house at the Zoo is a perfume compared to the breath of the breeze that has passed over a sulphonal factory. Messrs. Leo Fossen & Co., chemical manufacturers, Kirdorf, near Hamburg, had to pay a fine of 2oom. for creating a nuisance in that neighborhood, on account of the mercaptol, and recently the permission to manufacture the article has been withdrawn from them.

Editorial.

AMERICAN MEDICAL ASSOCIATION.

The meeting at Denver, June 7–10th ultimo, was well attended and up to the standard in scientific work.

In the absence of the President, Dr. George M. Sternberg, the administration of affairs fell to the lot of Vice-President Joseph M. Mathews, of Louisville, who presided with grace and dignity, and so won the hearts of the Fellows as to secure the presidency for the session of 1899. For the second time in a quarter of a century this great honor has been bestowed upon a citizen and surgeon of Louisville, and it is with pride tempered with gratitude that the local guide acknowledges the compliment.

The address of the retiring President was read by Col. A. W. Woodhull, of Denver. It was able, as was expected from a scientist of the first rank, and devoted to the more recent achievements of medicine. The X-ray, the new bacteria, the glandular extracts, antitoxins, and the bearings of these upon prophylaxis and therapy were clearly and forcibly presented. The address from beginning to end was an inspiring testimonial to the recent rapid advancement of medicine upon scientific lines, and heralds the no distant day when medicine, like surgery, shall take its place among the exact sciences, with the rout of quackery and the confusion of fogyism, ignorance, and empty pretension. He thus, in substance, concludes:

Finally, there was no room for creeds and pathies in medicine, no more than in astronomy, geology or botany. Every man was entitled to his own opinions upon any settled problem; but if he entertained an opinion in conflict with ascertained facts he simply showed his ignorance. There was no restriction placed upon any physician who graduates from a regular school as to the mode of treatment he should pursue in a given case. But if his patient dies of diphtheria because of his failure to have administered the proper remedy, or if he recklessly infects a wound with dirty fingers or instruments, or transfers pathogenic streptococci from a case of phlegmonous erysipelas to the interior of the uterus of a puerperal woman, it would appear that the courts should have something

XUM

to say as to his fitness to practice medicine. There was, however, nothing in the Code of Ethics which should prevent him from associating with reputable practitioners of medicine; but, no matter where or when he obtained his medical degree, he could scarcely be said to belong to the modern school of scientific medicine. We must not fail to recognize, however, that the progress of knowledge has been so rapid that it is impossible for a busy practitioner to keep pace with it, and that even the requirements now generally adopted by our leading medical schools for a four-years' course of study is inadequate for the attainment of such a degree of professional knowledge and practical skill in diagnosis and therapeutics as is desirable for one who intends to practice scientific medicine.

Among the business items the following may be mentioned as pertinent and progressive:

Dr. Dudley S. Reynolds, of Louisville, presented a resolution to the effect that after January 1, 1899, any college professor or other teacher that shall confer any degree upon any person not complying with the standards of the American Medical Association regarding educational requirements, shall hereafter be excluded from meetings of the Association. This was referred to the Executive Committee.

A resolution by Dr. W. W. Keen, of Philadelphia, was also introduced favoring vivisection for experimental research, which was referred to the Executive Committee.

Dr. H. A. Hare, of Philadelphia, offered a resolution relative to the State and county medical societies of New York, asking that they be allowed to send regularly recognized delegates to the Association. Referred to Executive Committee.

Dr. George M. Gould, of Philadelphia, presented a resolution, the effect of which was to encourage the establishment of medical libraries throughout the United States. Referred to Executive Committee.

Dr. Wm. Bailey, of Louisville, introduced an important matter in the form of a resolution to the effect that the office of General Secretary be created, with a salary not to exceed $2,500 or $3,000 per annum. He said that the Association had grown to such proportions that the services of at least one salaried man were required who would devote his entire time to the interests of the Association. By this resolution the present Secretary, Dr. Atkinson, would be retained as an honorary officer. Resolution referred to Executive Committee.

Dr. Sanders, of Alabama, recommended, in a series of resolutions, that the Association take steps leading to the establishment of public health bureaus, having their roots in every

city and town in the land, and an executive head in the national government.

Dr. Humiston, of Ohio, read a report, adopted by the Ohio State Medical Society, regarding the anti-vivisection bill, and recommended that in addition to the other committees being named, one should be composed of residents of Washington, Philadelphia, and Baltimore. Under this arrangement there would be assurance of prompt attendance of committeemen whenever the bill referred to came up.

The Committee on Nominations reported: For President, Dr. J. M. Mathews, Louisville; First Vice-President, Dr. W. W. Keen, Philadelphia; Second Vice-President, Dr. J. W. Graham, Denver; Third Vice-President, Dr. H. A. West, Galveston; Fourth Vice-President, Dr. J. E. Minney, Topeka; Librarian, Dr. George W. Webster, Chicago; Trustees, Drs. Alonzo Garcelon, T. J. Happel, and I. N. Love.

Place of meeting, Columbus, Ohio; time, June 7–10, 1899. —*American Practitioner and News.*

The Ontario Medical Council has a most interesting and important fight now on. The "great Professor Munyon" of homeopathic-remedy fame some time since opened an office in Toronto, under the management of two regular licensed Canadian practitioners. As is customary with the "Professor" free advice and prescriptions (of Munyon's "Remedies") were advertised extensively in the daily papers, and by circulars. Now it so happens that the legislature of this province has very wisely empowered the Medical Council to erase from the register of qualified practitioners the name of any doctor who violates the common rules of professional etiquette—including such advertising as that of the "Munyon remedies" and their free "prescription," and thereafter such doctor shall not be permitted to practice in the province, regardless of his ability, experience or authority of diploma. So the two doctors in the employ of the Munyon company have been summoned before the Council to show cause why their names shall not be erased from the register. Of course the company has employed the very best legal talent to conduct the fight which will be carried to the highest court in the endeavor to legalize the infamous and disgraceful conduct of the two practitioners and to secure decisions "curtailing the arbitrary and despotic powers" of the Council—to use the expression of the defendants. Attempts are also being made to influence leading newspapers to attack the law and the Council, because under the present rules the extensive advertising which disgraces some papers in the large cities of the United States is not permitted in Ontario; one circular saying: "The success of the council in their war against Munyon will certainly mean an ultimate injury to newspapers in Canada in the loss of advertising." It is to be hoped the Council will ultimately win this fight, which is to be a bitter one.—*American Journal of Surgery and Gynecology.*

XUM

Book Reviews.

A MANUAL OF HYGIENE AND SANITATION. By Seneca Egbert, A.M., M.D., Professor of Hygiene and Dean of the Medico-Chirurgical College of Philadelphia; Professor of Anatomy, Physiology and Hygiene in Temple College; member of the Academy of Natural Sciences of Philadelphia, etc., etc. Illustrated with sixty-three engravings. Lea Brothers & Co., Philadelphia and New York. 1898.

The growing importance of hygiene and sanitation in relation to personal and public good health is evidenced by the number of treatises appearing upon these subjects. Constant activity in this direction, the addition of new facts are further factors in explaining the abundance of the literature on hygienic and sanitary matters. Despite this, there is always a place for a good manual containing up-to-date information and brief enough not to weary the reader. It seems to us that in this volume of less than 400 pages these objects have been attained.

The author's experience as a teacher leads him to appreciate the wants of the students of medicine as well as the general reader, and enables him to present the salient points of his subject without wasting space over that which is not absolutely required.

The subect is considered under the following heads: "Bacteriology," showing the importance of the germ theory in relato hygiene and sanitation and containing the essentials of bacteriological study; "The Atmosphere," showing the composition of the air and the agents of contamination and the effects of such impurities; "Ventilation and Healing;" a valuable chapter on water; also one on food. These are followed by chapters on personal and school hygiene; disinfection and quinine: the removal and disposal of sewerage; vital statistics, and one containing technics of examining air, water and food.

The clearness and succinctness of the language, the wealth of explanatory illustrations and the brevity without important omission recommend the work as a text-book, and as such we predict for it a notable popularity.

A MANUAL OF GENERAL PATHOLOGY FOR STUDENTS AND PRACTITIONERS. By Walter Sydney Lazarus Barlow, B.A., B.C., M.D., M.R.C.P. Late Demonstrator of Pathology and Examiner in Sanitary Science in the University. Philadelphia: P. Blakiston, Son & Co. 1898.

The author's endeavor is to supply a deficiency which exists in the literature of General or Experimental Pathology. His scholarly production supplies the need.

The work is concerned with the basic principles of medicine gained from experiment and observation and applied to the explanation of the varied processes of disease. To those whose education in medicine was before the rise of pathology and microscopy, this book is especially to be recommended. It will throw light upon subjects obscure to those who are forced to

view them solely from the empirical, clinical standpoint. To the modern student such knowledge is essential. The volume is a masterly exposition of the subject, and will doubtless do much good in instructing many who are inclined to seek rather for drugs than causes of diseases.

A TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By John J. Reese, M.D., late Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania; late President of the Medical Jurisprudence Society of Philadelphia. Fifth edition, revised by Henry Leffman, A.M., M.D., Ph. D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania, Pathological Chemist to the Jefferson College Hospital, Philadelphia. Philadelphia: P. Blakiston, Son & Co. 1898.

The popularity attained by previous editions of this well-known work insures a cordial reception for the present revision. The conservative nature of medical jurisprudence being so closely allied to the law, precludes the addition to the subject of general facts hitherto unknown. The work of revision has consisted in reports of new and difficult cases not included in the former editions, as well as in noting the advances made possible by the application of the X-Rays and of the laws relating to the medical profession, medical education and sanitation, which are constantly increasing.

The toxicologic portion has been carefully revised by the editor, whose personal work in this connection is well and favorably known.

TWENTIETH CENTURY PRACTICE OF MEDICINE. Vol. XIV. Infectious Diseases. Wm. Wood & Co., New York.

The contributors to this volume and their contributions are as follows:

Dillon Brown, M.D., New York, "Chicken-pox."

David Bruce, M.B., C.M., Pietermaritzburg, South Africa, "Malta Fever."

Sir Joseph Fayrer, Bart., M.D., LL.D., F.R.S., F.R.C.P., F.R C.S., London, "Dengue."

F. Forchheimer, M.D., Cincinnati, O., "Scarlet Fever."

A. Jacobi, M.D., New York, "Cholera Infantum," an especially valuable contribution.

A. Nelter, M.D., Paris, "Military Fever."

N. B. Norton and Joseph O'Dwyer, M.D., New York, "Whooping Cough."

Theodor Rumpf, M.D., Hamburg, "Asiatic Cholera."

A. A. DeAzevedo Sodre, Rio de Janeiro, "Beri-beri."

Dawson Williams, M.D., M.R.C.P., London, "Measles."

BRIEF ESSAYS ON ORTHOPEDIC SURGERY. By Newton U. Shaffer, M.D. New York: D. Appleton & Co. 1898.

These essays are a collection of papers by the author, which have appeared from time to time in the medical press. Their titles are as follows: "Present Status of Orthopedic Surgery," "What is Orthopedic Surgery?" "On the Definition and Scope

of Orthopedic Surgery," "The Relation of Orthopedic to General Surgery," "Present Needs of Orthopedic Surgery," "Is Orthopedic Surgery to Become an Obsolete Specialty?" with remarks on specialism. The essays are all interesting and show that the author has his heart in his work, and has proven an able defender of it against its critics.

BOOKS RECEIVED.

Physical Diagnosis—Tyson. P. Blakiston, Son & Co.

Materia Medica for Nurses—Grof. *Ib.*

Exercises in Pathology—Whitacre. *Ib.*

Quiz Compends. Diseases of the Skin—Schamberg. *Ib.*

Diseases of Children—Taylor & Wells. *Ib.*

Conservative Gynecology—Massey. F. A. Davis Co.

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If the SOUTHERN MEDICAL RECORD is sent to any one who does not wish it, or beyond the time he intends to pay for it, the manager must be informed directly to stop it. It will not be sent knowingly to any one who does not wish it, but if notice is not given to discontinue, payment will be required for the time it is sent.

ATTENTION.—All communications and all matters pertaining to this department must reach us by the 20th of the month to insure insertion in the following month's issue.

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The hypnotic effect of Bromidia does not by any means represent the sole benefit to be derived from this preparation, but it meets, in a very perfect manner, many other indications involving hyperæsthesia of nerve tips and over-excitability of spinal cord. In doses of one-half teaspoonful, given every four hours for two days, will so benumb the sensory nerve tips of the buccal cavity that dentists can take impressions of the mouth, fit in rubber dams, etc., that would otherwise be impossible on account of the gagging peculiar to some patients. In the hands of the medical practitioner, given in half-teaspoonful doses every four hours, will make life endurable for hay-fever patients during the months of August and September. A teaspoonful will completely quiet the paroxysmal pain following childbirth or miscarriage without in any way interfering with uterine contractions.

A SHEET ANCHOR.—On September 10, 1897, a well-known New York physician, the Surgeon of the Third Avenue Cable Railroad Company, returned to the New York office of the Norwich Pharmacal Company ninety-four one-pound empty Unguentine jars. In a letter accompanying the jars the doctor says: "The jars I return to you to-day represent the number of pounds of Unguentine I have used since December 1st, last. I have from twelve to fifteen cases a day, mortormen, conductors and stablemen suffering from slight wounds, abrasions, cuts, bruises and burns, and about the only treatment I make is to give them a small box of Unguentine It is certainly my sheet anchor in practice, as in every instance it heals all the above cases quicker than anything I have ever used."

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Simple Syrup..... ℥ vij–vi.
M. Sig. Teaspoonful every two or three hours.

℞ Listerine.
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Syr. simpl.
Aqua Cinnamon, aa ℥ i.
M. Sig. Teaspoonful every one, two or three hours.

℞ Bismuth Sub. Nit ..... ℥ ss.
Tr. Opii ..... gtt. xx.
Syr. Ipecac, } aa..... ℥ ij.
Syr. Rhei Arom. }
Listerine..... ℥ ss.
Mist Creta ..... ℥ j.
M. Sig. Teaspoonful as often as necessary, but not more frequently than every three or four hours. This for children, about ten or twelve months old.

SANMETTO IN HYPERTROPHY OF THE PROSTATE; ALSO IN CYSTITIS.—I have used Sanmetto myself for hypertrophy of the prostate, from which I have suffered for fifteen years. My age is eighty-three years. I have found out the value of Sanmetto, and am persuaded that this remedy will cure me entirely. I prescribed it for two of my patients who suffered with cystitis; one forty years of age was perfectly cured from the use of two bottles. The other, sixty years of age, thinks he will never stop it. I think so much of Sanmetto that I, for the first time in my life, feel induced to recommend the same to any physician.

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The superiority of the elixir consists in uniting with the Phosphates the special properties of the Cinchona and Prunus, of subduing fever and allaying irritation of the mucous membrane of the alimentary canal, which adapts it to the successful treatment of stomach derangements and all diseases of faulty nutrition, the outcome of indigestion, mal-assimilation of food and failure of supply of these essential elements of nerve force and organic life. The special indication of this combination of Phosphates in Spinal Affections, Caries, Necrosis, Ununited Fractures, Marasmus, Poorly Developed Children, Alcohol, Opium, Tobacco Habits, Gestation and Lactation to promote Development, etc., and as a physiological restorative in sexual debility, and all used-up conditions of the nervous system, should receive the careful attention of good therapeutists. Phosphates being a natural food product, no substitute will do their work in the system.

DOSE: For an adult, one tablespoonful three times a day after eating; from 7 to 12 years of age, one dessertspoonful; from 2 to 7, one teaspoonful; for infants, five to twenty drops according to age.

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